

**DESIGN SUMMARY**  
**KUHN DITCH TRIBUTARY: LAKE TIPPECANOE WATERSHED**  
**WARNER HISTORICAL FARMS RESTORATION**

**Kosciusko County, Indiana**

February 11, 2002

**Prepared For:**

Tippecanoe Environmental Lake and Watershed Foundation  
P.O. Box 55  
North Webster, Indiana 46555

And

Lake and River Enhancement Program  
Division of Soil Conservation  
Indiana Department of Natural Resources  
402 West Washington Street—Rm. W 265  
Indianapolis, Indiana 46204

**Prepared By:**

J.F. New & Associates, Inc.  
708 Roosevelt Road  
Walkerton, Indiana 46574  
(219) 586-3400

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## **Executive Summary**

This project addresses chronic problems related to stormwater and excessive sediment loading to Lake Tippecanoe from the Kuhn Ditch watershed and tributary. According to the Lake Tippecanoe Watershed Diagnostic Study conducted in 1997, Lake Tippecanoe receives an excessive amount of sediment and nutrients from its contributing watershed. The primary objective of the project is to reduce sediment loading by 20% from current levels from the headwaters of Kuhn Ditch, and enhance wetland habitat on the project site. The project proposes to restore four isolated wetlands, plant the entire area to native vegetation, detain stormwater, and provide for some filtration of sediments during high flows in Kuhn Ditch. The proposed treatments are expected to decrease the current amount of sediment being transported from upstream areas, reduce harmful nutrient supply, and attenuate flood peaks from the watershed. Concerns for nutrient loading and surface erosion also helped to convince the land owner to restore the entire farm to native vegetation and enroll it into the Conservation Reserve Program (CRP). This project was made possible by the cooperation of the landowner and funding from the Indiana Department of Natural Resources Lake and River Enhancement (LARE) Program.

## **I. Project Description and Purpose**

Warner Historical Farm is located ½ mile west of North Webster on County Road 600 North in Kosciusko County, Indiana and has been continuously farmed since the 1800s. The farm occupies an area of approximately 90 acres and is bisected by Kuhn Ditch. A small tributary stream flows through the western third of the property joining Kuhn ditch on the south side of County Road 600 North. The farm is mostly Boyer sandy loam with up to 12% slopes, isolated depressions of Sebewa mucky loam and Kosciusko sandy clay loam with 8-15% slopes. These soils have the potential to be highly erodible when exposed to precipitation and subsequent runoff. Although the farm practices minimum tillage operations, evidence of sheet erosion was apparent during numerous visits over several years (personal observation). The 1997 Tippecanoe Watershed Diagnostic Study identified high concentrations of suspended sediment and nutrient loading from Kuhn Ditch. Conclusions made from that investigation suggested the need to focus on managing erosion of sediment from the surrounding landscape and controlling sediment-laden runoff during storm events

The primary objective of this project is to reduce the amount of sediment and nutrient loading in the Kuhn Ditch tributary by 20%. Project success will be determined from comparison of sediment and nutrient concentrations during storm flow to those measured in the 1997 Diagnostic Report. Project actions will focus on controlling landscape erosion, limiting channel bank erosion, and providing stormwater detention. Furthermore, restoration seeks to enhance upland habitat and expand wetland areas in the effort to meet the primary objective.

Recommendations for managing surface erosion and intercepting suspended sediment transport in the channel include extensive native species plantings of uplands, building a diversion channel directed into an adjacent pond and detaining storm runoff through the use of a grade control structure. Woodland, prairie, and wetland habitat restoration is planned for the entire 90-acre parcel. Woodland restoration will include buffer strips composed of trees and will encompass 34 acres of the restoration area. Wetland restorations and enhancement will include the removal of drainage tiles, detention of water on site by a control structure, and establishment of native aquatic species. These proposed actions are expected to expand current total wetland area to approximately 8 acres. Native prairie vegetation will be established on 48 acres of upland area. Extensive plantings of native species on the upland areas are specifically intended to control surface erosion and facilitate infiltration during storm events.

## **II. Design Rationale**

The proposed project is a long-term restoration effort to reverse adverse erosion processes and reduce sediment and nutrient loading to the lake. Natural hydrologic flow paths need to be restored for this site. Breaking the existing network of underground drainage tile is the first step in the restoration process. Two six inch tile lines were identified for removal, both feeding directly into Kuhn Ditch and contributing to increased peak discharge flows, and thus downstream erosion. Removing the drainage tile has a four-fold purpose; to permit surface detention, increase

groundwater storage, reduce the transport of fine sediments, and retard the release of infiltrated water through the soil matrix. Surface detention in shallow depressions on the landscape can facilitate increased rates of evapotranspiration, reducing the amount of water reaching the channel. Tile drains artificially limit groundwater storage by establishing a ceiling above which the local water table cannot rise. Tiles also provide a conduit for groundwater and very fine particulate sediment to travel effectively to the channel. With the tile drains removed, storage of infiltrated water will be increased and will also help to retard the release of groundwater and associated sediments to the tributary. The result should be a more stable base flow for the stream, improved water quality, and reduced supplemental storm flow from tiles draining into the channel. In the context of habitat enhancement, a steady base flow is biologically important for aquatic macroinvertebrate and fish diversity, and provides needed soil moisture for the permanent ground cover to become established and thrive.

Replacing 90 acres of existing agricultural fields with grass and trees will help to protect the surface from sheet erosion and limit soil loss from surface runoff. It is expected that it may take up to five years to get 100% coverage of the existing exposed soils. Evapotranspiration, infiltration, and interception rates are also expected to increase with the continued development of the proposed plantings. An estimate regarding how the grass planting will affect runoff response is not calculated, however, continued monitoring will help to quantify ongoing changes to flow.

Grade control structures are intended to detain water into an existing, but partially drained, wetland and direct high flows into the existing marl pond. The expected result of this proposed action is to temporarily store storm water, enhance wetland extent, and reduce fine sediment loading. Stormwater will enter the reach where it will be stored to a set elevation at which point it will be more gradually released through the grade control structure. Backing the water behind the structure will enable ponded conditions to exist for longer durations directly upstream of the structure. For the 2-year flow event, water elevations are estimated to be 856.3 and cover an area of approximately 3 acres. As stormwater extends out ahead of the control structure, channel velocities will decrease and sediments may settle from the water column. Restoring natural wetland functions and raising the water elevation using grade controls allows the flood flows to spread energy and settle sediment throughout the floodplain rather than concentrating it within the defined channel.

### **III. Design Specifics**

#### **A. Planting Plan**

An inventory of plants and quantities is listed by woodland, wetland, stream channel and prairie area in Appendix A. Those plants listed in Appendix A will be planted in the quantities specified unless substitutions are approved at planting time and documented by the supervising engineer.

#### **B. Grade Control Structures**

Rock grade control structures are designed to emulate the low riffles of stable creeks. They perform multiple functions by stabilizing the creek bed, providing habitat, providing aeration, and creating natural pools and riffles. The method used for the design of the grade control structures is outlined in *Field Manual of Urban Stream Restoration* (Newbury et al., 2001). The rocks comprising the grade control structure are sized such that shear forces at high flows in the channel will not mobilize the stone. The flat slope on the downstream side of the crest stone eases the grade transition from the crest stone to the existing stream bottom by effectively dissipating stream power (15:1 slope minimum). Upstream angled crest stones direct flow toward the center of the existing channel, rather than toward the banks by passing over a v-profile weir crest situated at the highest point of the grade control structure (4:1 slope maximum). The median size of stone for the structure has been calculated for the tractive force that would be experienced during the 100-year event. Calculations of the critical shear experienced during this event specify a median diameter of 1.4 feet, using Highway Research criterion (Federal Highway Administration). This design method has been employed on numerous streams throughout North America and it is expected that the designed structure will produce a backwater effect with minimal adverse impact on the channel. See Appendix C for calculation of control structure substrate sizing.

#### **C. Creek Overflow Channel**

A relative cross section of a stable reach on the existing channel was surveyed. This measurement was used to estimate the cross sectional area for the proposed overflow channel. From field inspection, bankfull cross-sectional area is estimated as 12 square feet. Assuming the main channel is stable and can carry the 2-year conveyance effectively within its banks; the new overflow channel will mimic the main channel and also have a cross-sectional area of 12 square feet. The laterally aligned overflow channel will be set at an elevation where flood stage during larger storm events will allow water to flow into the wide, flat area of the restored wetland as well as into the new overflow channel. The new channel will lead to an existing 0.6-acre marl pit where fine sediment can settle from the water column. A return flow channel further downstream will be set at an elevation that draws from relatively clarified water from the marl pit and returns it to the main channel corridor.

All excavation from the construction of the two new channel sections will be placed on upland areas outside of the identified floodway as shown on the plans. The new overflow channel will be seeded with native sedges, grasses and forbs as specified in Section III-A above and covered with a coconut-straw erosion control blanket SC150BN or equivalent to facilitate germination and protect the surface from any storms that might occur in the first two years. The channel bed and banks will be armored with 2-4 inch glacial stone.

#### **D. Modeling 2-year Flow with Proposed Grade Control Structures**

Simulation of flow conditions using a HEC-RAS model indicated that water would pond to an elevation of 856.3 feet behind the grade control structures during a flood with a frequency of two years. Water depth at this elevation would cover an area of approximately 3 acres, including storage area in the marl pond (Appendix C). The 2-year flow for the project site was calculated from empirical relationships developed by the U.S. Geological Society for estimating the magnitude and frequency of floods on streams in Indiana (Glatfelter, 1984). The 2-year flow was calculated to be 47.0 cfs for the size of contributing watershed and other watershed characteristics at the project site. This model simulation supplied a rough estimate of the likely response in terms of expected water levels following the installation of the grade structures. However, the model is limited in its ability to represent this system by the assumption of one-dimensional flow. A two-dimensional model may better represent this particular situation; however, it is beyond the scope and budget of this particular project.

#### **IV. Construction Schedule**

The project was scheduled to begin implementation in the spring of 2001 with a completion date of July 2001. Actual construction work was delayed until fall of 2001.

##### **Tasks**

- 1) Tree planting
- 2) Drainage tile removal
- 3) Ground preparation, wetland and prairie seeding
- 4) Overflow channel construction and grade controls
- 5) Kuhn Ditch bank repair at 600 North Road

##### **Date of Construction**

April 2001  
April 2001  
April – June 2001  
October 2001  
October-November 2001

## **V. Maintenance Activities**

The primary maintenance activity will be annual inspection of the property by a member of the Foundation, their assigned agent or the landowner. The inspection should note general plant survival throughout the entire property, check for erosion in the vicinity of the stabilized reach along County Road 600 North, along the new stream channels, and at grade controls. Any signs of erosion or failure of the plants to become established should be reported to the Foundation so that remedial measures can be taken.

The inspection should monitor wetland and prairie plant survival by determining approximate percentages of visible bare ground in random plots. No more than 50 percent of the ground surface should be visible after the first year, declining to 10 percent or less after five years. Monitoring of trees should be completed by looking for live buds in the early spring or green leaves in the summer. At least 7 of every 10 trees planted are expected to be alive after five growing seasons. Herbicide treatment or mowing may be necessary to assist tree survival and should be assessed on an annual basis for the first five years after planting. If tree survival is less than 70% after the first year (280 trees per acre or less), remedial planting is recommended.

The inspector should locate the installed grade controls and bypass channel and note any erosion problems on the bank or channel bottom that may be caused by design or installation problems. Bare patches of soil and steep or overhanging banks are likely the result of scour and should be noted and reported to the Foundation for corrective action. The ditch bank stabilization at the south edge of the property should note any indication that the channel is moving by looking for sediment deposition or scour areas along the banks.

## **VI. Project Summary**

Restoration of the Warner Historical Farm is intended to improve water quality and facilitate the establishment of wildland habitat and native plant species. Returning the property to woodland and prairie will significantly reduce sediment erosion. Removing drainage tile from the Sebewa muck pockets to restore wetlands will result in the storage of approximately 16 acre-feet of water during storm events, adding to the long term base flow of the stream. Stormwater detention will enhance and expand wetland area and provide flood peak attenuation. Additionally, a diversion channel designed to accept flows during less frequent storm events will help to deliver an estimated 10-15% of the finely suspended sediment from storm water flows to an adjacent abandoned marl pit.

## References

Chang, H. 1988. *Fluvial Processes in River Engineering*. Krieger Publishing. Pp. 432

Glatfelter, Dale R. 1984. *Techniques for Estimating Magnitude and Frequency of Floods on Streams in Indiana*. Water Resources Investigations Report 84-4134, USGS, Indiana Department of Highways & Federal Highway Administration, pp. 109.

Newbury, Robert, Marc Gaboury & Chester Watson. 2001. *Field Manual of Urban Stream Restoration*. Illinois State Water Survey, Champaign, Illinois. pp. 78.

## **APPENDICES**

## **APPENDIX A:**

### **Seed Inventory**

**Trees and shrubs:**

<b>Common Name</b>	<b>Scientific Name</b>	<b># Seedlings (34 acres)</b>
White pine	<i>Pinus strobus</i>	500
White oak	<i>Quercus alba</i>	2,000
Burr oak	<i>Quercus macrocarpa</i>	2,000
Red oak	<i>Quercus rubra</i>	1,000
Pin oak	<i>Quercus palustris</i>	1,000
River birch	<i>Betula nigra</i>	2,000
Green ash	<i>Fraxinus pennsylvanica</i>	1,000
Sugar maple	<i>Acer saccharum</i>	500
Tulip tree	<i>Liriodendron tulipifera</i>	500
Flowering dogwood	<i>Cornus florida</i>	900
Eastern redbud	<i>Cercis Canadensis</i>	750
American sycamore	<i>Platanus occidentalis</i>	750
Ninebark	<i>Physocarpus opulifolius</i>	1,400
Black chokeberry	<i>Prunus virginiana</i>	900
Gray dogwood	<i>Cornus racemosa</i>	900
Elderberry	<i>Sambucus canadensis</i>	900
<b>Totals:</b>		<b>18,000 Seedlings</b>

**Stream channel seed mix:**

<b>Common Name</b>	<b>Scientific Name</b>	<b>(oz.)/Acre</b>
Indian grass	<i>Sorghastum nutans</i>	16.0
Prairie cordgrass	<i>Spartina pectinata</i>	24.0
Canada rye	<i>Elymus canadensis</i>	16.0
Switch grass	<i>Panicum virgatum</i>	16.0
Big blue stem	<i>Andropogon gerardii</i>	16.0
Stiff goldenrod	<i>Solidago rigida</i>	2.0
Golden ragwort	<i>Zizia aurea</i>	1.0
Water horehound	<i>Lycopus americanus</i>	3.0
New England aster	<i>Aster novae-angliae</i>	3.0
Great angelica	<i>Angelica atropurpurea</i>	4.0
Sawtooth sunflower	<i>Helianthus grosseserratus</i>	3.0
Blue flag iris	<i>Iris virginicus</i>	4.0
Blazing star	<i>Liatis spicata</i>	3.0
Bebb's Sedge	<i>Carex bebbii</i>	3.0
Sedge	<i>Carex normalis</i>	3.0
Round spikelet Sedge	<i>Carex cristatella</i>	3.0
Sedge	<i>Carex tribuloides</i>	3.0
Sedge	<i>Carex stipata</i>	3.0
Fox Sedge	<i>Carex vulpinoidea</i>	3.0
Sedge	<i>Carex lupulina</i>	3.0
Grey's sedge	<i>Carex grayii</i>	3.0
Frank's sedge	<i>Carex frankii</i>	3.0
Sedge	<i>Carex lurida</i>	3.0
Common mountain mint	<i>Pycnanthemum virginicum</i>	1.0
Culvers root	<i>Veronicastrum virginicum</i>	1.0
Black eyed susan	<i>Rudbeckia hirta</i>	4.0
Cup plant	<i>Silphium perfoliatum</i>	3.0
Seed Oats	<i>Avena sativa</i>	32 lbs/acre
Annual rye	<i>Lolium multiflorum</i>	101 lbs/acre

**Prairie:**

Common Name	Scientific Name	(oz.)/ 48 Acres
Big blue stem	<i>Andropogon gerardii</i>	1,680
Little bluestem grass	<i>Andropogon scoparius</i>	840
Partridge pea	<i>Cassia fasciculata</i>	210
Sand coreopsis	<i>Coreopsis lanceolata</i>	210
Broad-leaved purple coneflower	<i>Echinacea purpurea</i>	210
Virginia wild rye	<i>Elymus virginicus</i>	560
Rattlesnake master	<i>Eryngium yuccifolium</i>	140
Annual rye	<i>Lolium multiflorum</i>	5,600
Switch grass	<i>Panicum virgatum</i>	980
Wild quinine	<i>Parthenium integrifolium</i>	70
Hairy beard tongue	<i>Penstemon hirsutus</i>	105
Yellow coneflower	<i>Ratibida pinnata</i>	105
Black-eyed susan	<i>Rudbeckia hirta</i>	210
Indian grass	<i>Sorghastrum nutans</i>	1,260
Purple prairie clover	<i>Petalostemum purpureum</i>	140
Side oats grama	<i>Bouteloua curtipendula</i>	840
Seed Oats	<i>Avena sativa</i>	1,120 lbs/acre
Emergent Wetland Seed Mix	<i>See wetland seed mix below</i>	50lbs per acre
<b>Totals:</b>		<b>2,483.5 lbs</b>

**Wetland seed mix:**

<b>Common Name</b>	<b>Scientific Name</b>
Redtop	<i>Agrostis alba</i>
Creeping bent grass	<i>Agrostis alba palustris</i>
Spike rush	<i>Eleocharis obtuse</i>
Common rush	<i>Juncus effuses</i>
Rice cut grass	<i>Leersia orzyoides</i>
Soft-stem bulrush	<i>Scirpus validus</i>
Bur reed	<i>Sparganium eurycarpum</i>
Sweet flag	<i>Acorus calamus</i>
Common water plantain	<i>Alisma subcordatum</i>
Cardinal flower	<i>Lobelia cardinalis</i>
Great blue lobelia	<i>Lobelia siphilitica</i>
Monkey flower	<i>Mimulus ringens</i>
Native Water Lily (Yellow)	<i>Nuphar advena</i>
Arrow arum	<i>Peltandra virginica</i>
Smartweed	<i>Polygonum pennsylvanicum</i>
Seed Oats	<i>Avena sativa</i>
Annual rye	<i>Lolium multiflorum</i>
<b>Totals:</b>	<b>382 lbs/8 acres</b>

## **APPENDIX B:**

### **Maintenance Form**

## MAINTENANCE INSPECTION FORM

Project Name: Kuhn Ditch – Warner Historical Farm Restoration

Date: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_

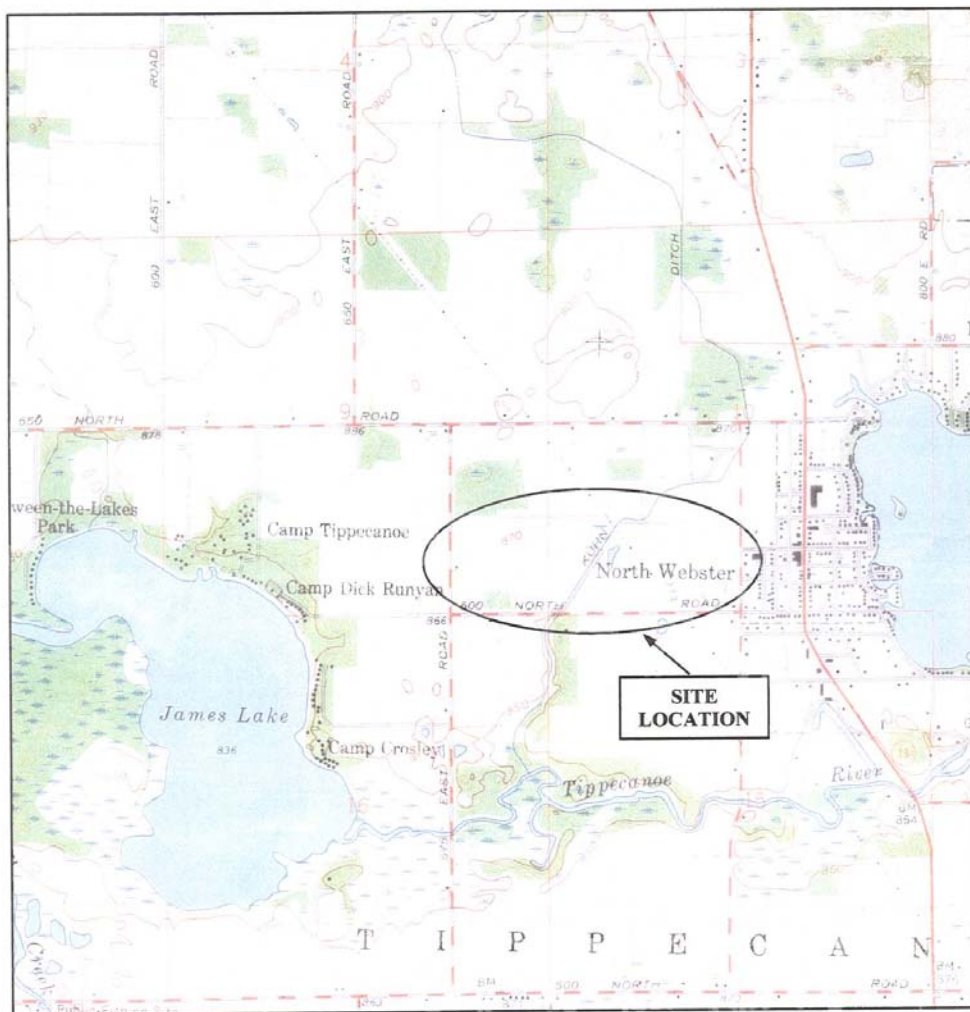
1. Trees are planted on 8-10 foot centers in 6-8 rows. Are 7 out of 10 trees alive and healthy?
2. Is the prairie area dominated by planted native grasses or by weedy species like thistle, clover, and ragweed? Native species should dominate more after the first three years.
3. Is the ditch in the area of 600 North Road appear stable? Are the rocks used staying in place or rolling along the bottom of the stream during high flows? Is the road being undercut?
4. Are the restored wetlands holding any water? If not, is it due to time of year, weather conditions or some other reason? Is water in the wetlands backing up into areas not owned by the White's? If so please state whether you think it is necessary to deal with the situation.
5. Are the overflow channels free of significant erosion? Are they fully vegetated? Is the marl pit clear, muddy, or otherwise severely impaired for recreational use.
6. Is there any bank erosion occurring downstream of the outlet channel?
7. Other observations.

Inspector Signature and Printed Name: \_\_\_\_\_

Mail completed form to: Tippecanoe Environmental Lake and Watershed Foundation  
P.O. Box 55, North Webster, Indiana 46555

## **APPENDIX C:**

### **Design Drawings and Engineering Calculations**



Scale: 1" = 2.5 miles

**Figure 1: Location Map  
Warner Historical Farm Project  
North Webster, Kosciusko County, Indiana**

JFNA# 95-08-22-04








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P.O. Box 243  
Wahpeton, ND 58574  
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Fax: 218-268-3448

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Legend:


-  Food plot
-  Reforested buffer
-  Cool season grass
-  Prairie
-  Wetland

Warner Historical Farms, Inc.  
CRP Plan, 2000  
Kosciusko County, Indiana



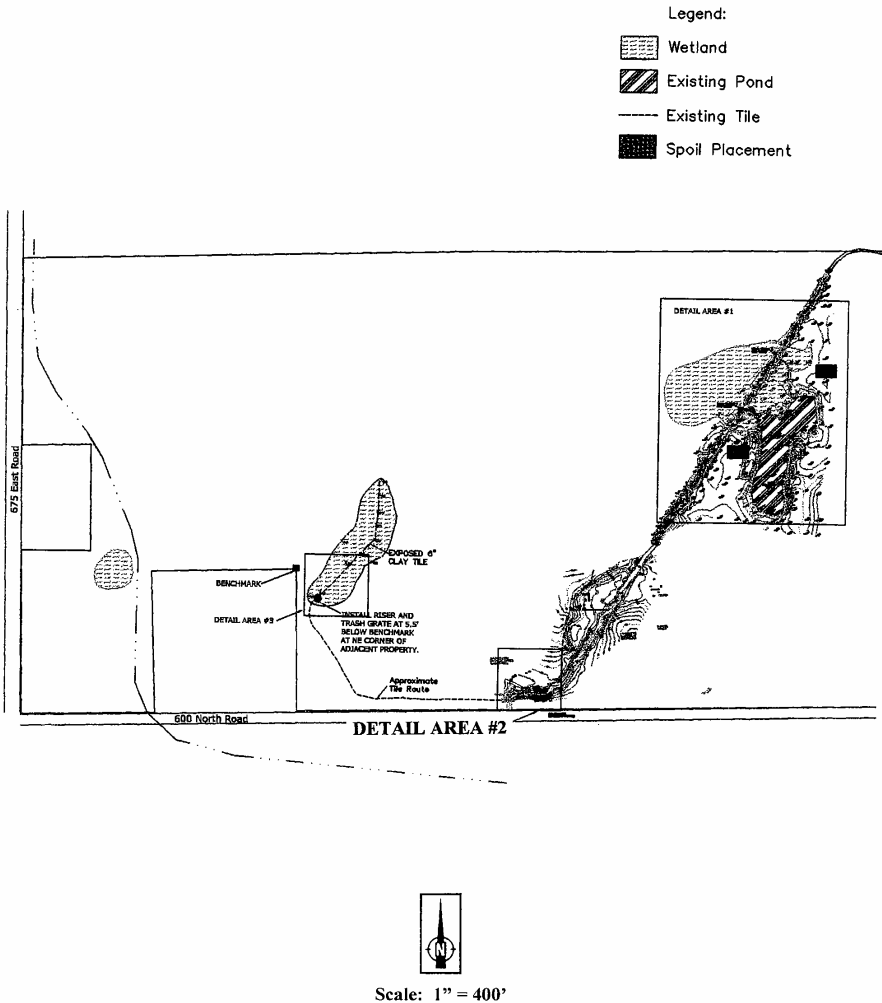
Scale: 1" = 400'

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**J.F. New & Associates, Inc.**  
 708 Rosewood Road  
 Valparaiso, IN 46374  
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**Figure 2.0: Plan View, West Half  
Warner Historical Farm Project  
North Webster, Kosciusko County, Indiana**





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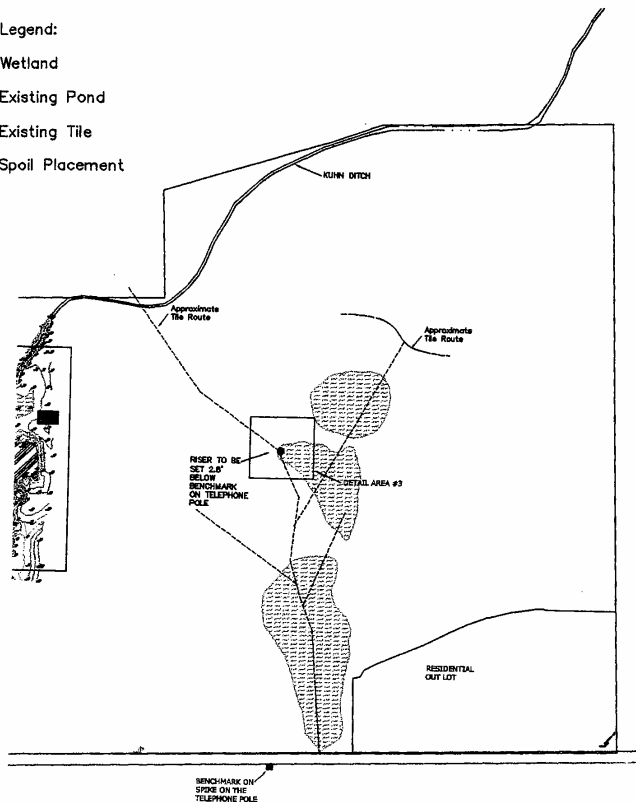


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P.O. Box 243  
Walker, IN 46574  
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- Legend:
-  Wetland
  -  Existing Pond
  -  Existing Tile
  -  Spoil Placement



Scale: 1" = 400'

**Figure 2.1: Plan View, East Half  
Warner Historical Farm Project  
North Webster, Kosciusko County, Indiana**

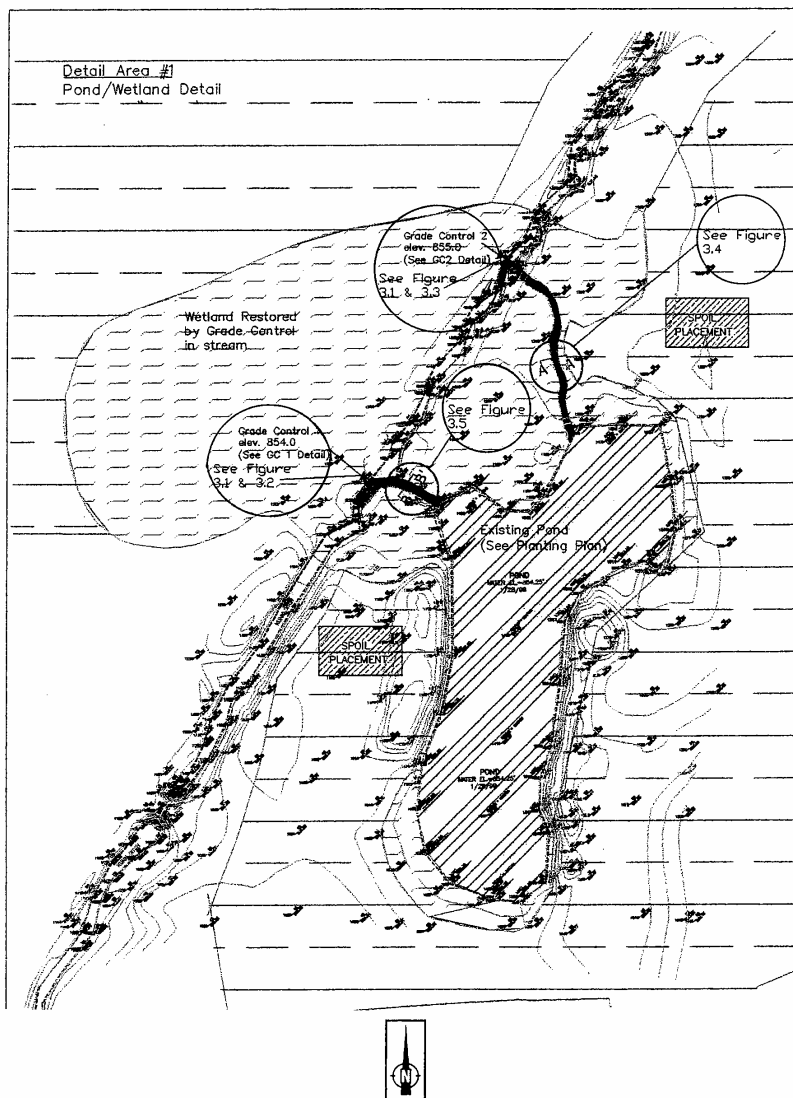
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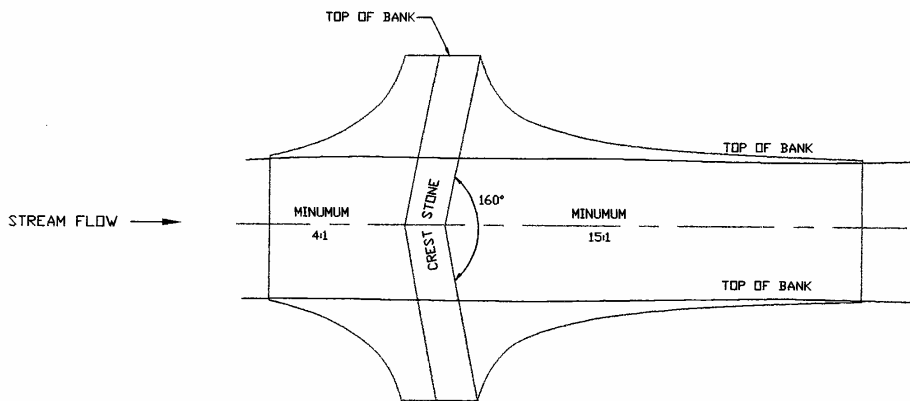
**Figure 3.0: Central Wetland Detail**  
**Warner Historical Farm Project**  
**North Webster, Kosciusko County, Indiana**

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GRADE CONTROL 1 AND 2 DETAIL

TOP VIEW  
NOT TO SCALE

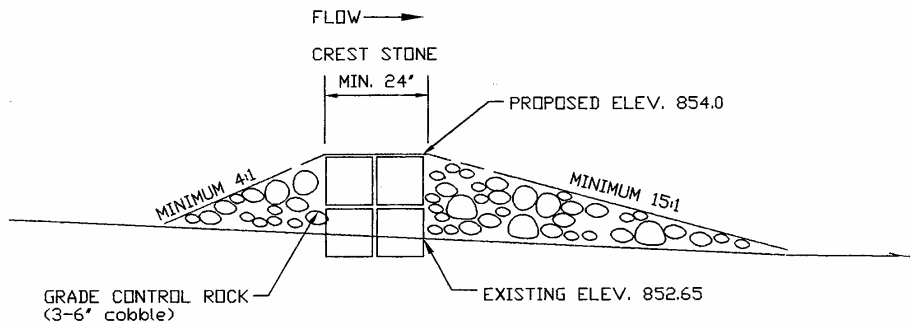
Figure 3.1: Top View, Grade Control 1 and 2  
Warner Historical Farm Project  
North Webster, Kosciusko County, Indiana

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**J.F. New & Associates, Inc.**

708 Roosevelt Road  
P.O. Box 243  
Walkerton, IN 46574  
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Fax: 219-565-3448

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# GRADE CONTROL 1 DETAIL

SIDE VIEW

NOT TO SCALE

**Figure 3.2: Grade Control 1 Detail**  
**Warner Historical Farm Project**  
**North Webster, Kosciusko County, Indiana**

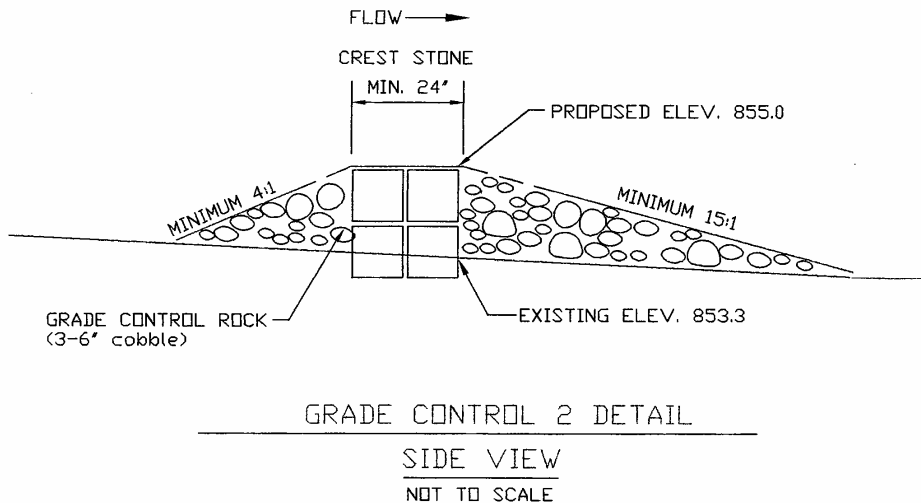
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**Figure 3.3: Grade Control 2 Detail**  
**Warner Historical Farm Project**  
**North Webster, Kosciusko County, Indiana**

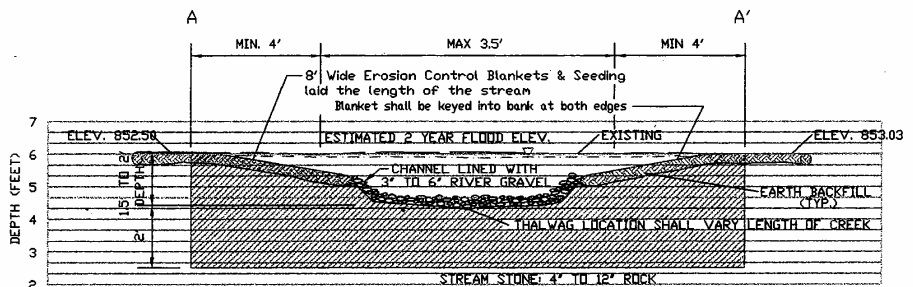
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CROSS SECTION A - A'

Scale as Noted

JFNA# 95-08-22-04

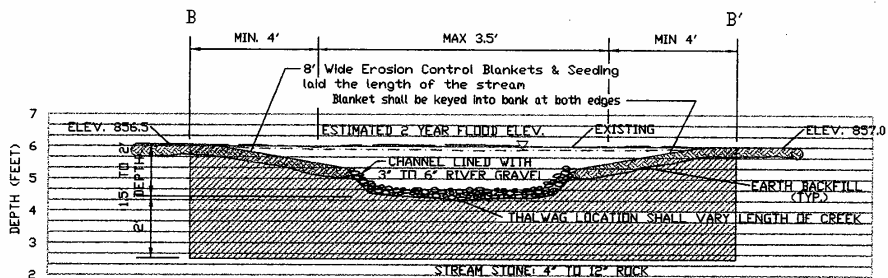
**Figure 3.4: Cross Section A:A', Overflow Channel  
Warner Historical Farm Project  
North Webster, Kosciusko County, Indiana**



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Associates, Inc.**

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P.O. Box 923  
Walker, IN 46574  
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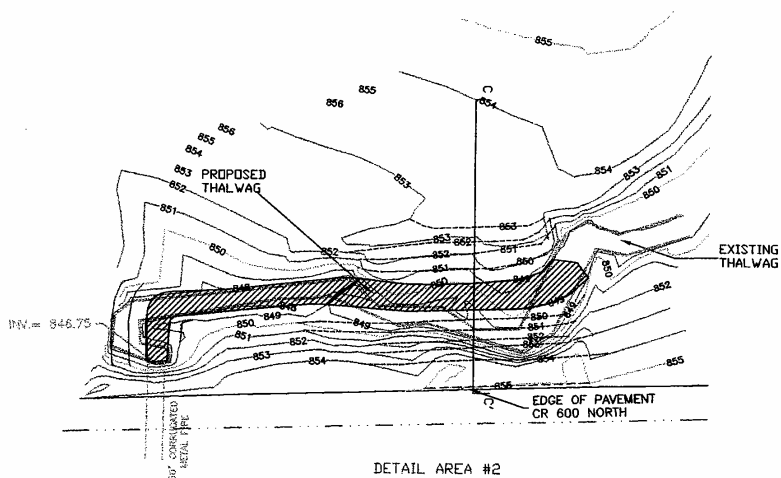
Scale as Noted

Figure 3.5: Cross Section B:B', Outfall Channel  
Warner Historical Farm Project  
North Webster, Kosciusko County, Indiana

JFNA# 95-08-22-04

 **J.F. New & Associates, Inc.**  
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Scale: 1" = 40'

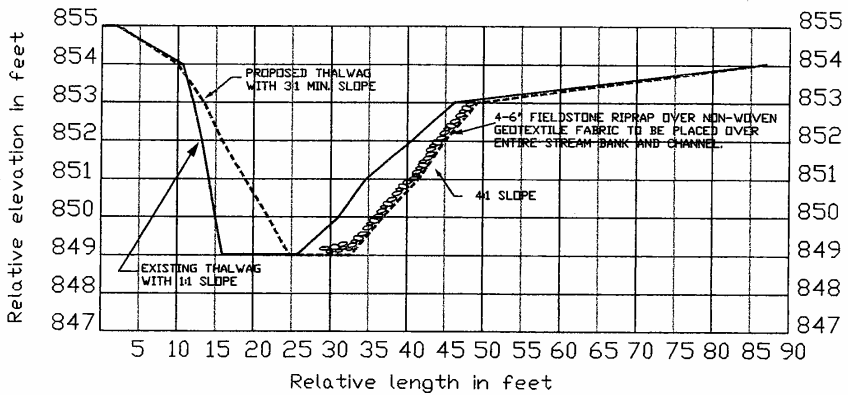
**Figure 4.0: Streambank Stabilization, Plan View**  
**Warner Historical Farm Project**  
**North Webster, Kosciusko County, Indiana**

JFNA# 95-08-22-04



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DETAIL AREA #2  
CROSS SECTION C - C'

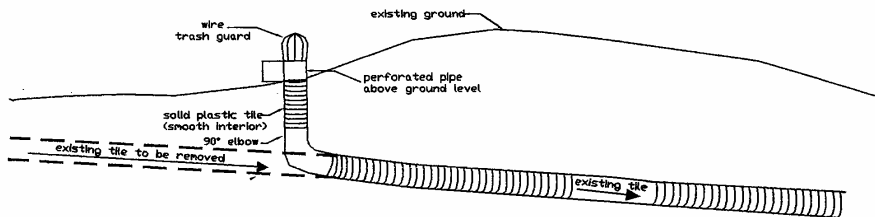


Scale as Noted

JFNA# 95-08-22-04

**Figure 4.1: Streambank Cross Section**  
**Warner Historical Farm Project**  
**North Webster, Kosciusko County, Indiana**





DETAIL AREA #3  
TYPICAL RISER CROSS SECTION

Not to Scale

Figure 5.0: Typical Riser Installation  
 Warner Historical Farm Project  
 North Webster, Kosciusko County, Indiana

JFNA# 95-08-22-04



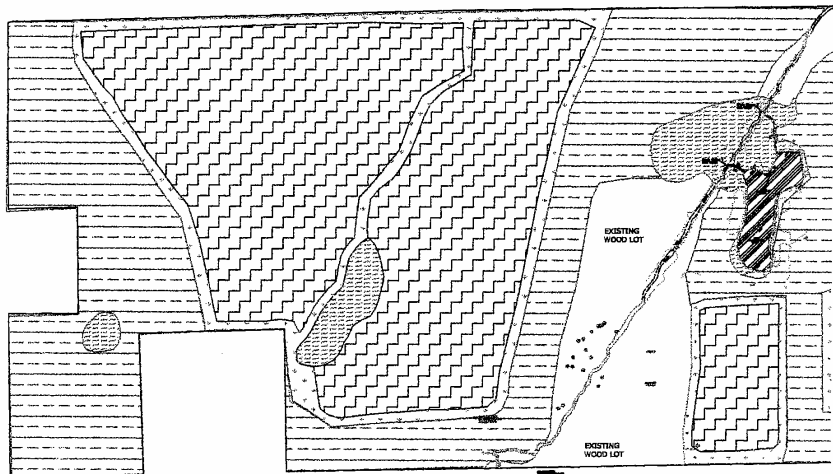
**J.F. New & Associates, Inc.**

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Legend:

-  Wetland
-  Existing Pond
-  Food Plot
-  Forrested Buffer
-  Cool Season Grass
-  Prairie



Scale: 1" = 400'

**Figure 6.0: Planting Plan, West Half**  
**Warner Historical Farm Project**  
**North Webster, Kosciusko County, Indiana**

JFNA# 95-08-22-04



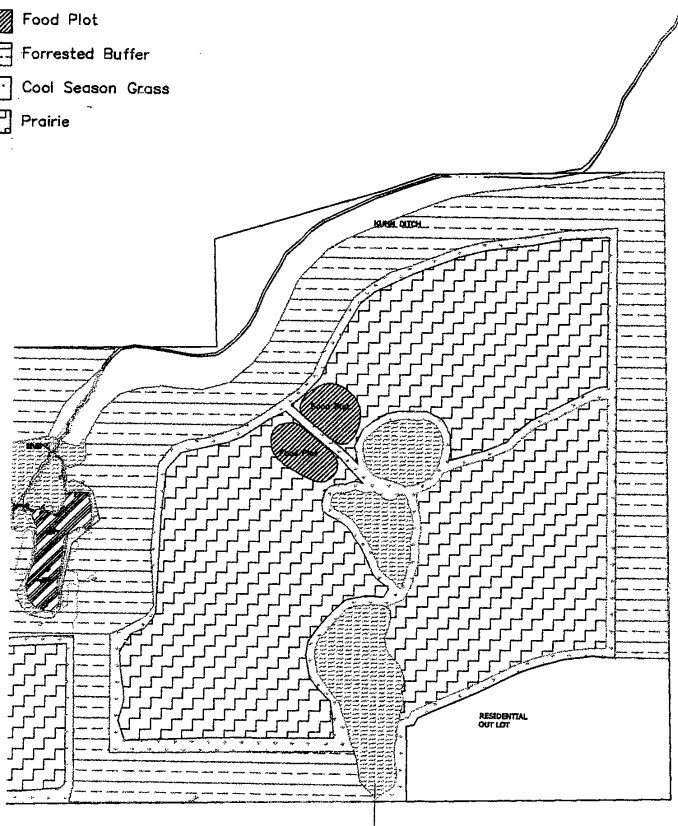
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Legend:

-  Wetland
-  Existing Pond
-  Food Plot
-  Forrested Buffer
-  Cool Season Grass
-  Prairie



Scale: 1" = 400'

**Figure 6.1: Planting Plan, East Half  
Warner Historical Farm Project  
North Webster, Kosciusko County, Indiana**

JFNA# 95-08-22-04



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"Ecological Consultants & Environmental Engineers"

JOB Kuhn Ditch: L. Tippecanoe

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY J. Tidwell DATE 8/11/2001

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE \_\_\_\_\_

# CALCULATION OF MEDIAN STONE DIAMETER OF GRADE CONTROL STRUCTURE, 100-yr. flood.

$b$  = top of weir width  
 $D$  = maximum water depth over weir  
 $S$  = slope of structure downstope  
 $R$  = hydraulic radii =  $A/P$   
 $A$  = Area  
 $P$  = wetted perimeter

$$\begin{aligned} A &= 59.14 \text{ ft}^2 \\ P &= 48.59 \text{ ft} \\ D_{\text{max}} &= 2.04 \text{ ft} \end{aligned}$$

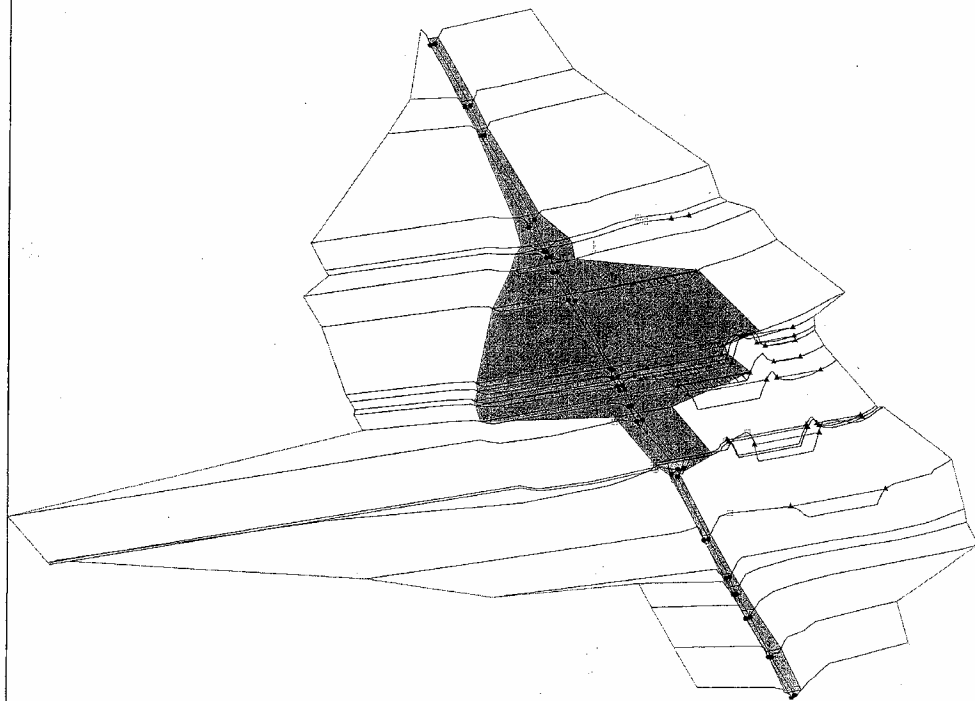
From (Chang, 1988, p. 92)

$$\begin{aligned} (\tau_o)_{\text{max}} &= 1.5 \gamma R S \quad \text{where} \quad \gamma = 62.4 \text{ lb/ft}^3 \\ &= 5.7 \text{ pfs} \quad R = 1.22 \text{ ft} \\ & \quad S = 0.05 \end{aligned}$$

(Chang, 1988, p. 85)

$$\begin{aligned} \tau_o &= 4 d_{50} \quad \frac{5.7 \text{ pfs}}{4} = d_{50} \text{ (ft)} \\ d_{50} &= 1.43 \text{ ft} \end{aligned}$$

Chang, H., 1988. Fluvial Processes in River Engineering  
Krieger Publishing Company. pp. 432.



Legend
WS PF 1
Ground
Bank Sta
Levee
Ineff

Plan: 100yrspillwa Kuhn Ditch Marl RS: 7.1 Profile: PF 1

E.G. Elev (ft)	858.04	Min El Weir Flow (ft)	856.01
W.S. Elev (ft)	857.68	Wtr Top Width (ft)	41.23
Q Total (cfs)	350.00	Total Gate Flow (cfs)	
Q Weir (cfs)	350.00	Gate Group Q (cfs)	
Wtr Flw Area (sq ft)	59.14	Gate Open Ht (ft)	
Weir Sta Lft (ft)	309.06	Gate #Open	
Weir Sta Rgt (ft)	350.29	Gate Area (sq ft)	
Weir Max Depth (ft)	2.04	Gate Submerg	
Weir Avg Depth (ft)	1.43	Gate Invert (ft)	
Weir Submerg	0.49		

## HEC-RAS River: Kuhn Ditch Reach: Marl Profile: PF 1

Reach	River Sta	Plan	E.G. Elev. (ft)	W.S. Elev. (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Marl	21	Exp Spillway	857.06	856.96	0.10	0.37	0.02	4.52	37.89	4.79	15.80
Marl	21	2yrflow	856.97	856.85	0.12	0.58	0.02	4.22	38.16	4.62	15.25
Marl	20	Exp Spillway	856.67	856.62	0.05	0.12	0.00	3.24	37.92	5.84	20.75
Marl	20	2yrflow	856.38	856.31	0.07	0.21	0.00	2.89	39.30	5.01	18.87
Marl	19	Exp Spillway	856.55	856.50	0.05	0.16	0.01	3.96	30.40	12.54	18.50
Marl	19	2yrflow	856.18	856.10	0.08	0.32	0.01	2.78	31.60	12.62	15.69
Marl	18	Exp Spillway	856.38	856.37	0.02	0.04	0.00	2.18	37.99	6.83	41.88
Marl	18	2yrflow	855.85	855.81	0.03	0.08	0.00	1.33	40.07	5.60	25.93
Marl	17	Exp Spillway	856.36	856.34	0.02	0.01	0.00	7.18	20.97	18.86	76.93
Marl	17	2yrflow	855.76	855.73	0.03	0.02	0.00	6.19	21.94	18.87	34.66
Marl	16	Exp Spillway	856.34	856.33	0.01	0.01	0.00	8.82	18.31	19.87	90.93
Marl	16	2yrflow	855.73	855.71	0.03	0.03	0.00	10.13	21.53	15.34	49.57
Marl	15	Exp Spillway	856.33	856.33	0.00	0.00	0.00	5.24	16.46	25.30	103.85
Marl	15	2yrflow	855.69	855.68	0.01	0.03	0.00	6.61	20.24	20.15	76.62
Marl	14	Exp Spillway	856.32	856.32	0.00	0.00	0.00	23.77	6.61	16.61	326.73
Marl	14	2yrflow	855.66	855.66	0.00	0.00	0.00	4.27	17.97	24.76	231.12
Marl	13	Exp Spillway	856.31	856.31	0.00	0.00	0.00	25.50	1.95	19.56	450.39
Marl	13	2yrflow	855.65	855.65	0.00	0.00	0.00	27.89	2.47	16.64	407.97
Marl	12	Exp Spillway	856.31	856.31	0.00	0.00	0.00	23.66	3.61	19.73	393.78
Marl	12	2yrflow	855.64	855.64	0.00	0.00	0.00	24.94	4.69	17.37	385.65
Marl	11	Exp Spillway	856.30	856.30	0.00	0.00	0.00	22.30	3.41	21.29	402.38
Marl	11	2yrflow	855.64	855.64	0.00	0.00	0.00	23.31	4.55	19.13	393.49
Marl	10	Exp Spillway	856.30	856.30	0.00	0.00	0.00	22.17	4.18	20.85	409.56
Marl	10	2yrflow	855.63	855.63	0.00	0.00	0.00	22.84	5.78	18.38	395.59
Marl	9	Exp Spillway	856.29	856.29	0.00	0.00	0.00	23.56	2.99	20.46	428.36
Marl	9	2yrflow	855.62	855.62	0.00	0.00	0.00	8.93	7.86	30.20	410.35
Marl	8	Exp Spillway	856.29	856.28	0.01			4.48	24.54	17.98	91.00
Marl	8	2yrflow	855.61	855.61	0.00	0.01	0.00	2.05	11.85	33.10	350.33

HEC-RAS River: Kuhn Ditch Reach: Marl Profile: PF 1 (Continued)

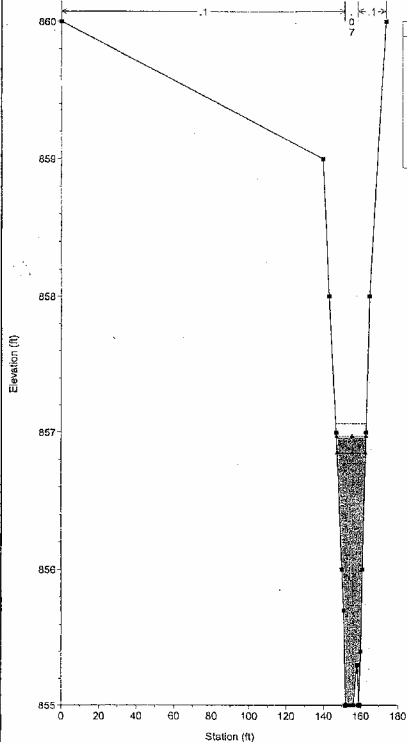
Reach	River Sta	Plan	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frcn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Marl	7.3		Inline Weir								
Marl	7	Exp Spillway	854.89	854.59	0.10	0.27	0.00	1.84	44.07	1.09	14.88
Marl	7	2yrflow	855.60	855.59	0.00	0.02	0.00	2.54	15.03	29.43	323.52
Marl	6	Exp Spillway	854.41	854.33	0.08	0.17	0.00	1.65	43.34	2.01	13.31
Marl	6	2yrflow	855.58	855.56	0.03	0.02	0.00	4.68	38.80	3.52	139.70
Marl	5	Exp Spillway	854.25	854.14	0.10	0.04	0.02	2.88	36.52	7.60	17.15
Marl	5	2yrflow	855.56	855.55	0.02	0.01	0.00	6.54	27.02	13.44	27.82
Marl	4	Exp Spillway	854.19	854.14	0.05	0.04	0.00	5.37	30.56	11.07	19.83
Marl	4	2yrflow	855.58	855.54	0.01			7.59	23.85	15.76	28.80
Marl	3	Exp Spillway	854.14	854.10	0.05	0.11	0.00	5.22	33.04	8.74	19.77
Marl	3	2yrflow	854.14	854.10	0.05	0.11	0.00	5.22	33.04	8.74	19.77
Marl	2	Exp Spillway	854.03	853.97	0.06	0.20	0.00	18.80	23.89	4.31	24.82
Marl	2	2yrflow	854.03	853.97	0.06	0.20	0.00	18.80	23.89	4.31	24.82
Marl	1	Exp Spillway	853.83	853.74	0.09			15.22	26.39	5.38	24.03
Marl	1	2yrflow	853.83	853.74	0.09			15.22	26.39	5.38	24.03

HEC-RAS River: Kuhn Ditch Reach: Mari Profile: PF 1

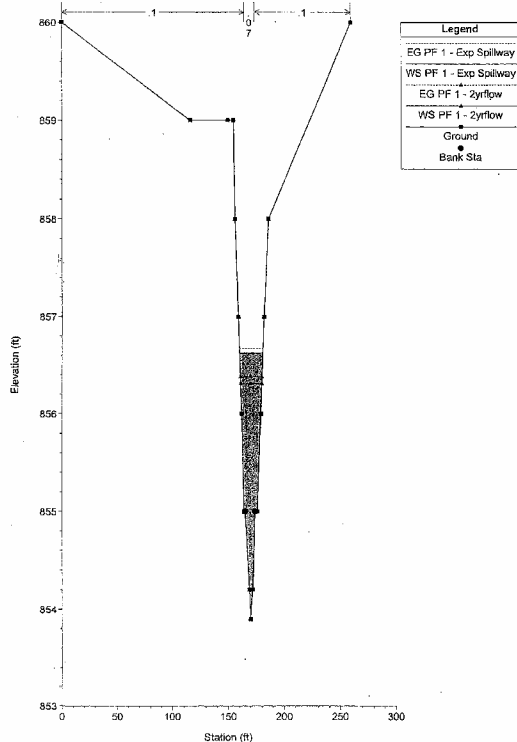
Reach	River Sta	Plan	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Mari	21	100yrspillwa	860.23	859.96	0.27	0.63	0.01	100.12	189.41	60.48	167.72
Mari	21	100yrinlcon	860.23	859.96	0.27	0.63	0.01	100.12	189.40	60.47	167.73
Mari	20	100yrspillwa	859.59	859.34	0.25	0.47	0.05	37.65	220.43	91.92	159.41
Mari	20	100yrinlcon	859.59	859.34	0.25	0.47	0.05	37.58	220.53	91.88	159.23
Mari	19	100yrspillwa	859.08	858.37	0.71	0.74	0.19	42.77	204.07	103.16	79.60
Mari	19	100yrinlcon	859.08	858.36	0.72	0.95	0.18	42.56	204.36	103.08	78.46
Mari	18	100yrspillwa	858.14	858.07	0.08	0.11	0.01	97.93	153.47	98.60	197.72
Mari	18	100yrinlcon	857.95	857.84	0.11	0.16	0.02	81.57	166.45	101.99	176.08
Mari	17	100yrspillwa	858.02	857.99	0.03	0.02	0.00	135.80	63.16	151.05	199.50
Mari	17	100yrinlcon	857.77	857.72	0.05	0.02	0.00	127.68	71.96	150.35	186.17
Mari	16	100yrspillwa	858.00	857.97	0.03	0.03	0.00	123.68	61.85	164.87	210.53
Mari	16	100yrinlcon	857.73	857.69	0.04	0.04	0.00	115.80	69.40	164.80	194.53
Mari	15	100yrspillwa	857.98	857.98	0.02	0.02	0.01	78.62	71.91	199.47	285.29
Mari	15	100yrinlcon	857.70	857.67	0.03	0.02	0.01	66.00	79.91	204.09	245.36
Mari	14	100yrspillwa	857.96	857.96	0.00	0.01	0.00	192.34	30.71	126.95	419.34
Mari	14	100yrinlcon	857.67	857.66	0.00	0.01	0.00	190.99	32.35	126.66	395.44
Mari	13	100yrspillwa	857.95	857.95	0.00	0.00	0.00	187.15	10.39	152.47	541.55
Mari	13	100yrinlcon	857.66	857.66	0.00	0.00	0.00	186.81	10.81	152.38	520.42
Mari	12	100yrspillwa	857.95	857.95	0.00	0.00	0.00	168.73	20.08	161.19	509.87
Mari	12	100yrinlcon	857.65	857.65	0.00	0.00	0.00	169.35	20.78	159.87	480.33
Mari	11	100yrspillwa	857.95	857.95	0.00	0.00	0.00	161.11	18.43	170.45	502.34
Mari	11	100yrinlcon	857.65	857.65	0.00	0.00	0.00	161.46	19.14	169.40	460.60
Mari	10	100yrspillwa	857.94	857.94	0.00	0.00	0.00	160.67	21.61	167.73	497.39
Mari	10	100yrinlcon	857.64	857.64	0.00	0.00	0.00	161.07	22.56	166.36	446.28
Mari	9	100yrspillwa	857.94	857.94	0.00	0.00	0.00	168.83	14.08	167.09	515.62
Mari	9	100yrinlcon	857.64	857.64	0.00	0.00	0.00	169.48	14.86	165.65	468.32
Mari	8	100yrspillwa	857.94	857.94	0.00			38.39	39.33	272.28	551.82
Mari	8	100yrinlcon	857.63	857.62	0.00	0.01	0.00	34.39	41.90	273.71	589.89

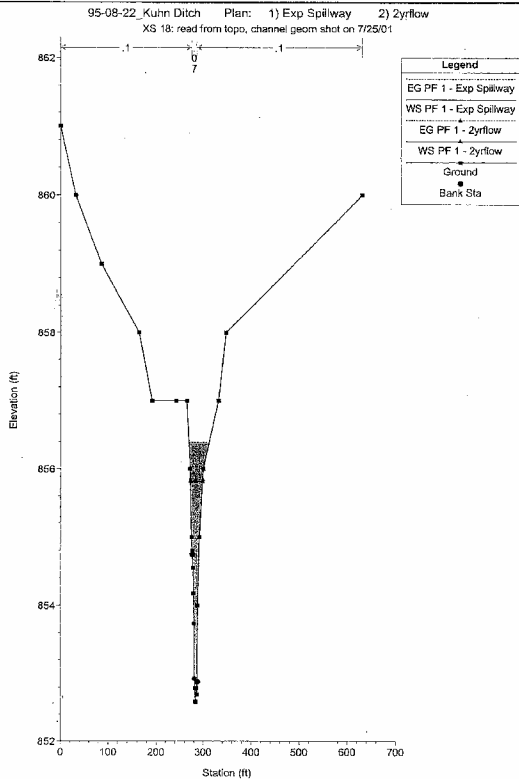
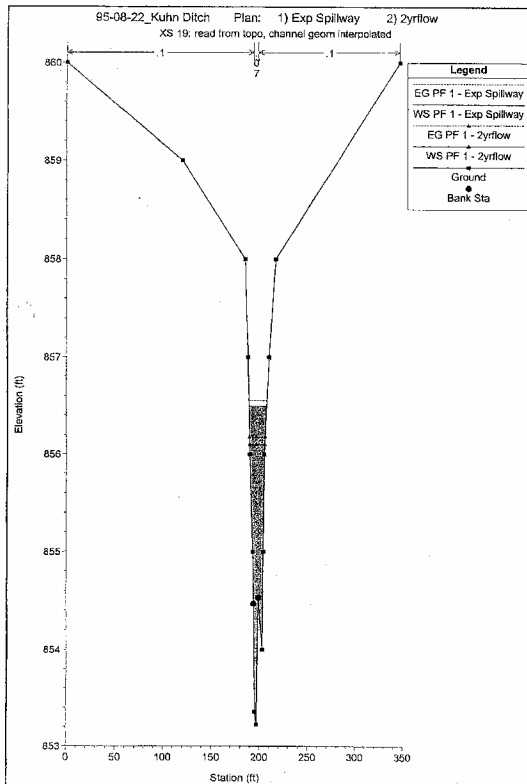
Reach	River Sta.	Plan	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frcn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Marl	7.3		Inline Weir								
Marl	7	100yrspillwa	857.93	857.52	0.41	0.48	0.01	60.36	257.59	32.05	23.56
Marl	7	100yrinrtcon	857.61	857.61	0.00	0.03	0.03	10.73	32.67	306.61	500.16
Marl	6	100yrspillwa	857.45	857.06	0.40	0.28	0.04	53.67	237.24	59.09	130.02
Marl	6	100yrinrtcon	857.56	857.29	0.27	0.19	0.03	53.25	215.03	81.72	307.75
Marl	5	100yrspillwa	857.13	856.86	0.28	0.10	0.00	68.51	166.34	115.16	109.72
Marl	5	100yrinrtcon	857.33	857.17	0.16	0.07	0.01	64.25	144.69	141.05	139.08
Marl	4	100yrspillwa	857.03	856.74	0.29	0.14	0.00	75.64	160.43	113.93	59.93
Marl	4	100yrinrtcon	857.26	857.04	0.22			75.88	151.68	122.44	71.76
Marl	3	100yrspillwa	856.89	856.58	0.31	0.25	0.02	86.53	193.03	70.44	59.55
Marl	3	100yrinrtcon	856.89	856.58	0.31	0.25	0.02	86.53	193.03	70.44	59.55
Marl	2	100yrspillwa	856.61	856.37	0.24	0.25	0.01	188.88	115.22	45.90	55.92
Marl	2	100yrinrtcon	856.61	856.37	0.24	0.25	0.01	188.88	115.22	45.90	55.92
Marl	1	100yrspillwa	856.35	856.14	0.21			141.09	110.57	98.35	63.52
Marl	1	100yrinrtcon	856.35	856.14	0.21			141.09	110.57	98.35	63.52

95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow

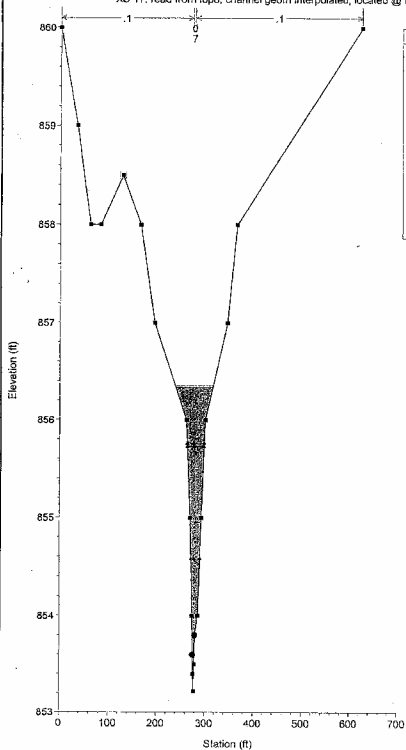


95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 20: Upper x-sec boundary

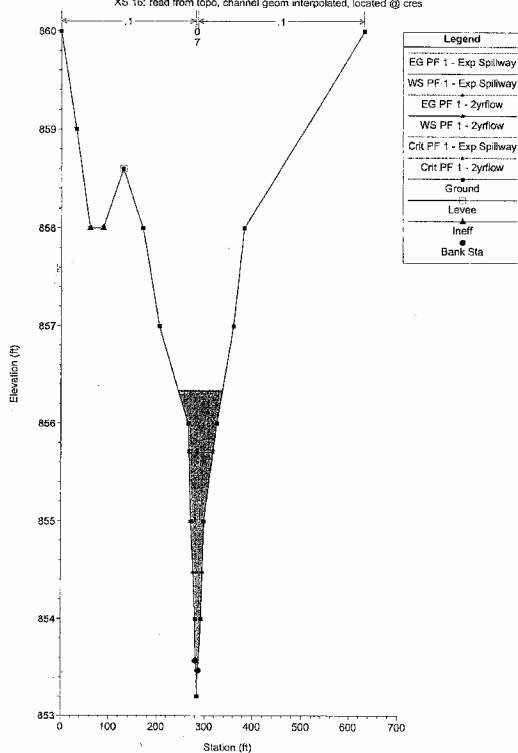




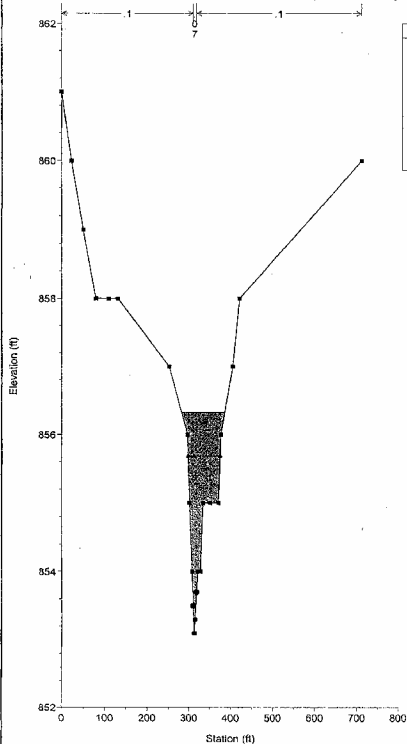
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
 XS 17: read from topo, channel geom interpolated, located @ nort



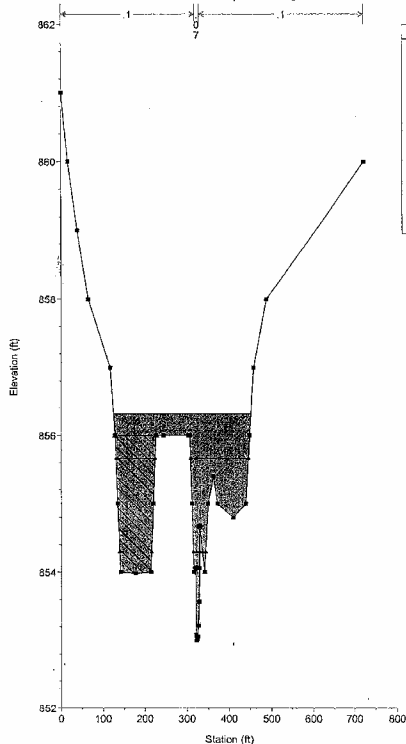
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
 XS 16: read from topo, channel geom interpolated, located @ cres



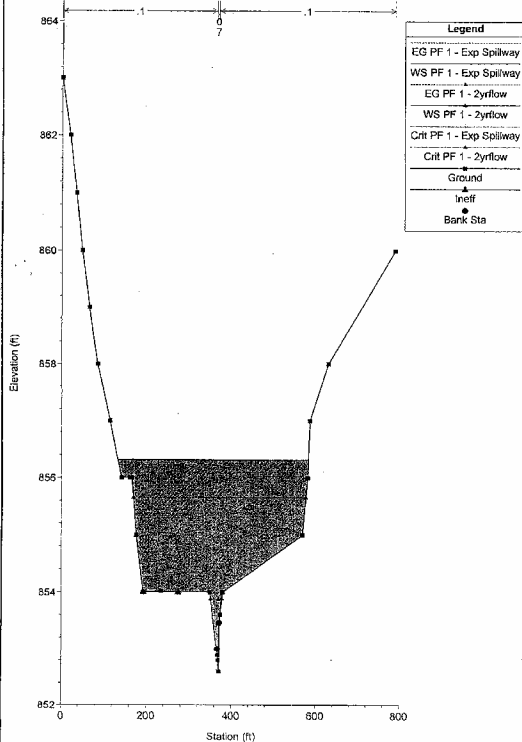
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 15: read from topo, channel geom interpolated, located @ sout



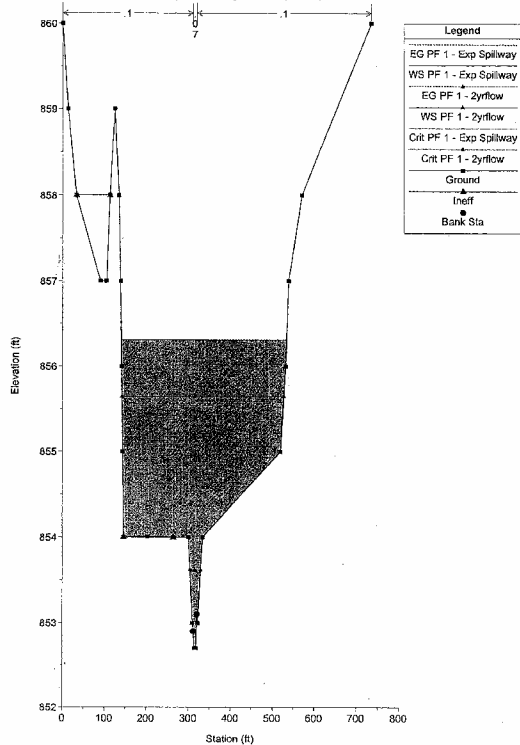
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 14: read from topo, channel geom shot on 7/25/01



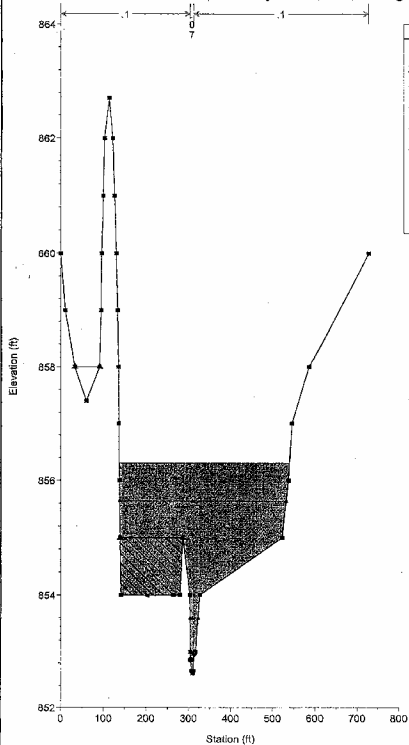
95-08-22\_Kuhn Ditch Plant: 1) Exp Spillway 2) 2yrflow  
XS 13: read from topo, channel geom. shot 7/25/01



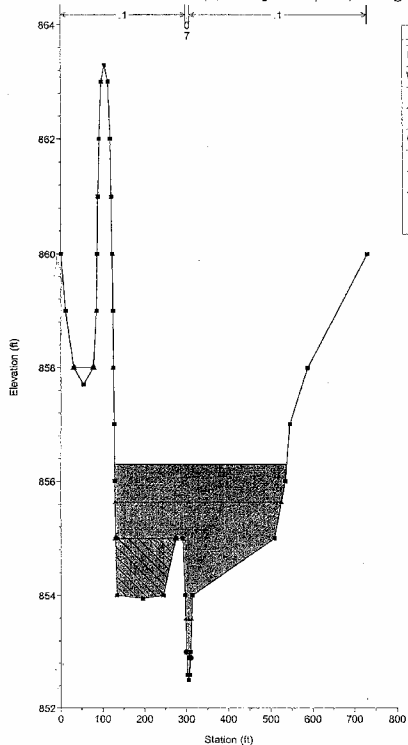
95-08-22\_Kuhn Ditch Plant: 1) Exp Spillway 2) 2yrflow  
read from topo, channel geom. interpolated, x-sec north end of m.



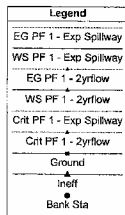
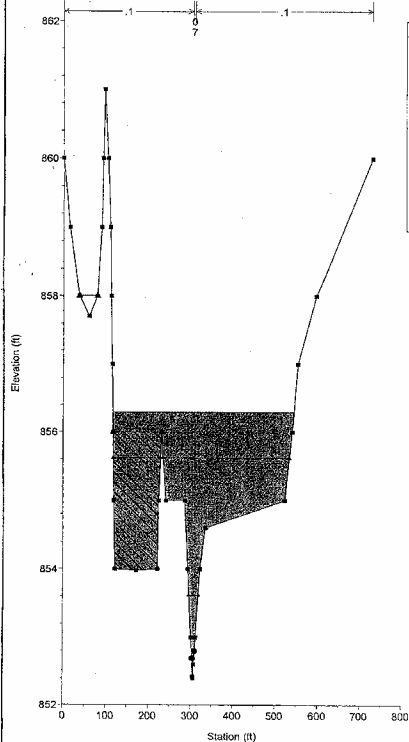
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 11: read from topo, channel geom. interpolated, located @ nor



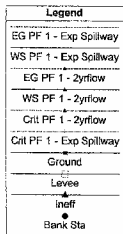
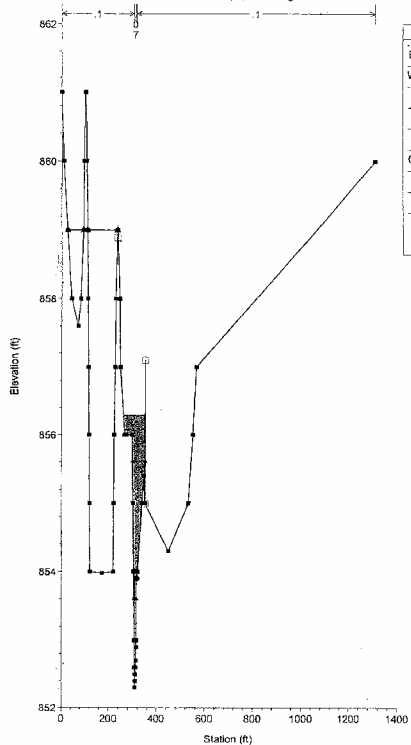
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 10: read from topo, channel geom. interpolated, located @ cre



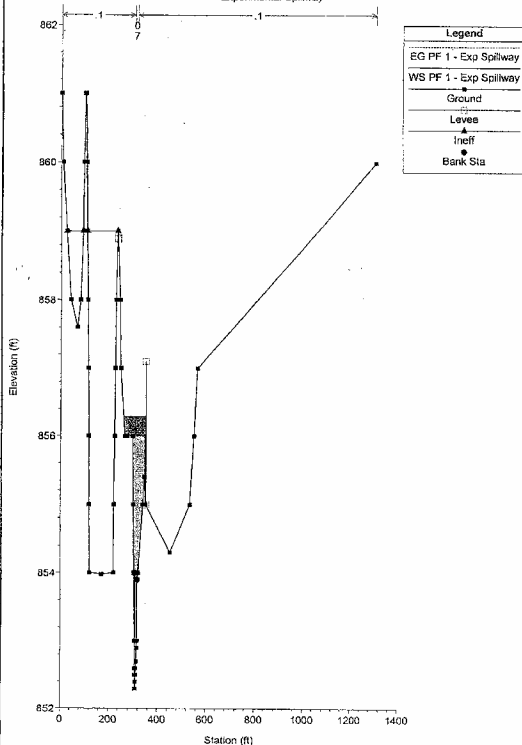
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
 XS 9: read from topo, channel geom. interpolated from x=600, lo



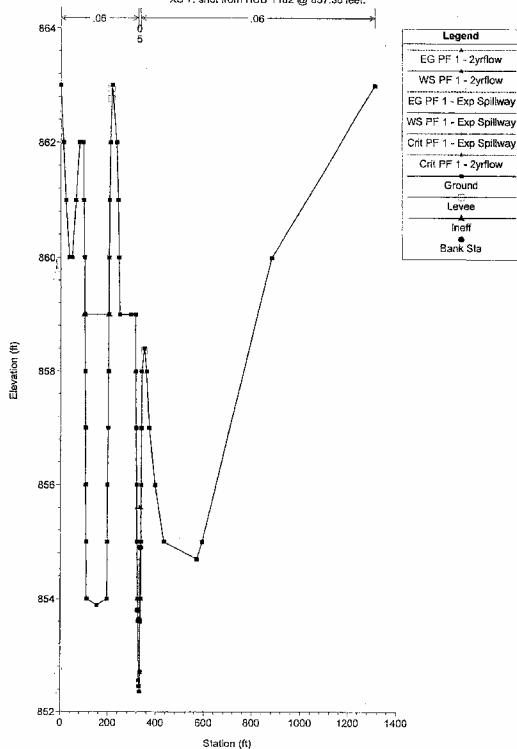
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
 XS 8: read from topo, channel geom. shot on 7/25/01



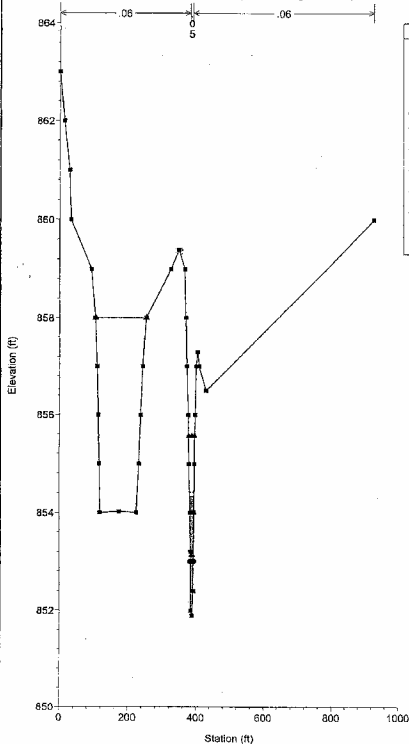
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
Experimental Spillway



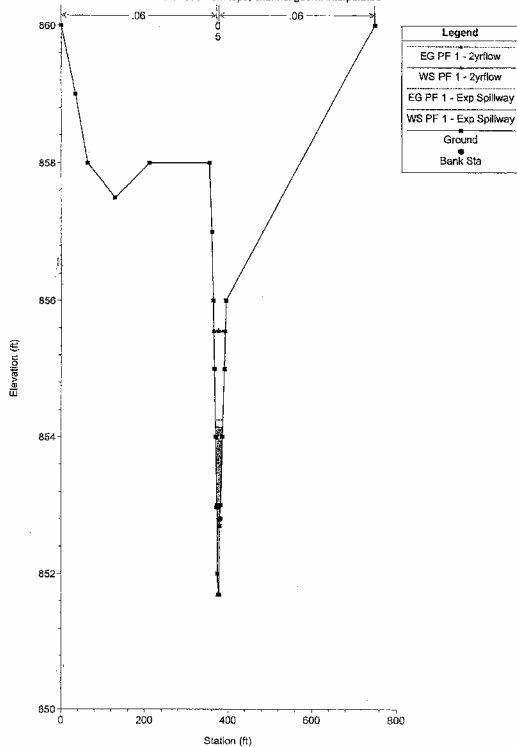
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 7: shot from HUB 1182 @ 857.36 feet.



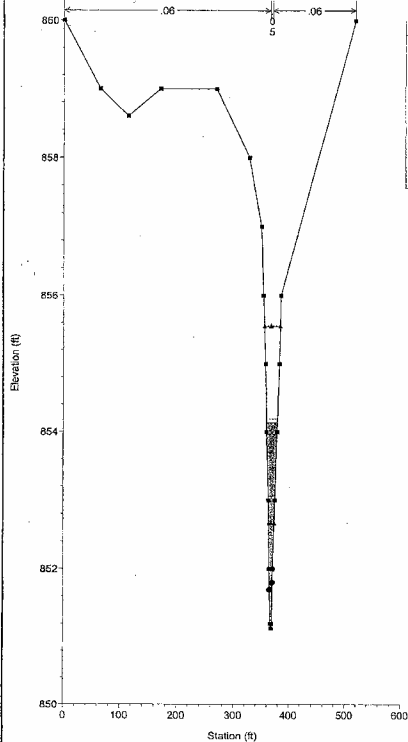
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 8: read from topo, channel geom. interpolated



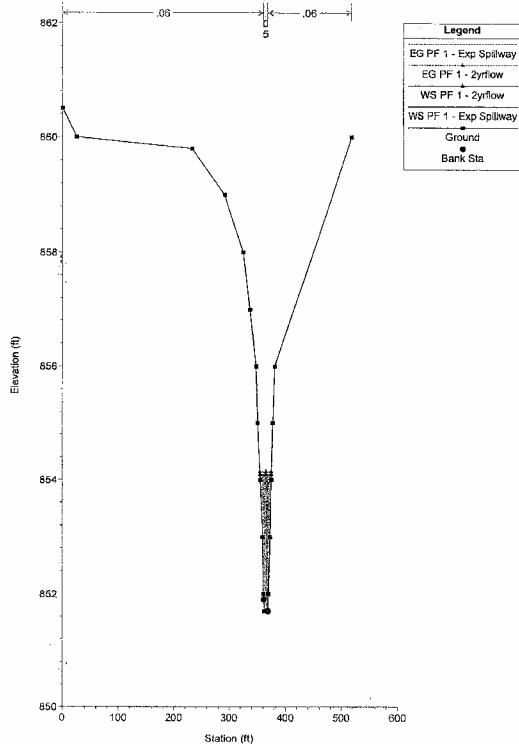
95-08-22\_Kuhn Ditch Plan: 1) Exp Spillway 2) 2yrflow  
XS 5: read from topo, channel geom. interpolated



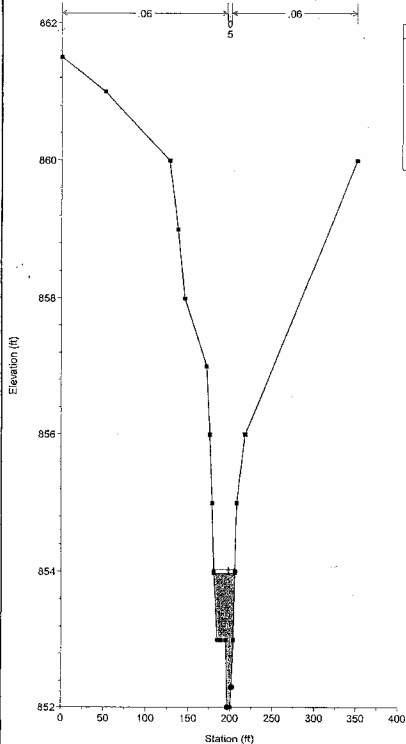
95-08-22\_Kuhn Ditch Plant: 1) Exp Spillway 2) 2yrflow  
XS 4: located directly upstream of small culvert, channel geomet



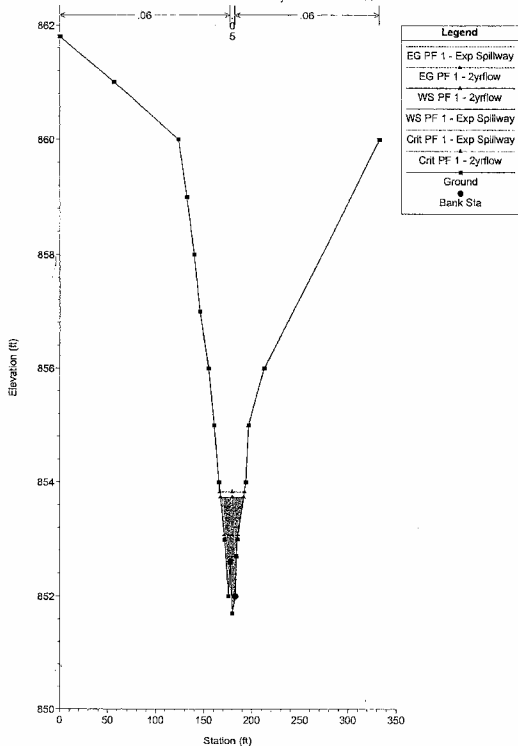
95-08-22\_Kuhn Ditch Plant: 1) Exp Spillway 2) 2yrflow  
XS 3: located directly south of small culvert



95-08-22\_Kuhn Ditch Plant: 1) Exp Spillway 2) 2yrflow  
 XS 2: all elevations are read from topomap, incl. channel dims



95-08-22\_Kuhn Ditch Plant: 1) Exp Spillway 2) 2yrflow  
 XS 1: downstream boundary of Kuhn Ditch reach



**APPENDIX D:**  
**Landowner Agreement**

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*Richard C. White*  
10159 East Topaz Drive  
Scottsdale, Arizona 85268

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John B. Richardson  
Project Manager  
J. F. New & Associates, Inc.  
708 Roosevelt Road  
Walkerton, IN 46574

VIA FAX @ (219) 586-3446

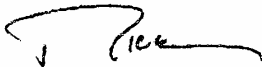
Dear John,

This will serve as our approval for you to enter upon our property for the purpose of completing soil samplings of the marl pit area. I understand that you will be responsible for correcting any disturbance of the plant life that might result from the testing.

As a separate note of information, I had a representative of mine contact the government officials that control the program for setting aside farmland into grass land areas (the exact name of the program escapes me at the moment). I thought that taking the land out of production through their program might be beneficial to the soil and the lake since runoff from fertilizers would be greatly or totally reduced. However, the offer of compensation for removing the land from production was considerably lower than figures that have been offered to other growers. As a result, I cannot justify the removal of the land from production. If you know anything about this program, or how I might re-petition the agency, please let me know. I think the idea of setting aside the land for the ten year period could benefit both our land and the lake, but I cannot afford to take a loss in doing so.

I look forward to your updates.

Happy Holidays



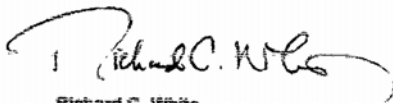
Richard C. White

*Richard C. White*  
10159 East Topaz Drive  
Scottsdale, Arizona 85258

January 31, 2000

To Whom It May Concern:

Please consider this letter acknowledgement of our intent to have Mr. John Richardson investigate the opportunities available through the CRP program for our property located near North Webster, Indiana.

A handwritten signature in dark ink, appearing to read "Richard C. White", with a stylized flourish extending from the end of the signature.

Richard C. White  
The White Family Trust

COPY

This agreement, made and entered into on this 8<sup>th</sup> day of November 2001, by and between Warner Historical Farm, Inc., (herein referred to as LESSOR) and the Tippecanoe Environmental Lake & Watershed Foundation, a not-for-profit corporation organized under the laws of the State of Indiana, (hereinafter referred to as LESSEE).

WITNESSETH:

Lessor, in consideration of the rents and covenants herein contained, does hereby lease to the Lessee approximately 13.6 acres of land (*0.6 acres-bank stabilization off of 600 N., 8.4 acres- wetland & pond enhancement, 3.16 acres-easternmost wetland area, 1.0 acres-westernmost wetland area*) located in Tippecanoe Township, Kosciusko County, Indiana, in the SW Quarter of Section 10-T33N-RTE and more particularly described in the legal description attached as Exhibit "A" (hereinafter often referred to as the "PROPERTY") and does hereby grant to Lessee access to said acreage for the construction of certain storm water improvements.

WHEREAS, the Tippecanoe Environmental Lake & Watershed Foundation is a not-for-profit Indiana corporation which is dedicated to improving the water quality of Tippecanoe Lake, located in Kosciusko County, Indiana and

WHEREAS, the Tippecanoe Environmental Lake & Watershed Foundation, wished to undertake activities and construction on the Property as part of its Lake Enhancement projects to improve the water quality of Tippecanoe Lake, located in Kosciusko County, Indiana, and

WHEREAS, Lessor is in agreement with the Tippecanoe Environmental Lake & Watershed Foundation's desire to improve the water quality of Tippecanoe Lake.

NOW, THEREFORE, Lessor, for themselves, their assigns, and administrators, in consideration of the covenants, undertakings and agreements hereinafter set forth, and in consideration of the sum of Ten Dollars and No Cents (\$10.00) and other valuable consideration, their receipt of which is hereby acknowledged, hereby leases to Lessee the Property described herein under the following terms and conditions:

1. TERM: This lease shall commence on the first day of construction on the Property and continue for a term of twenty-five (25) years from the date of the signing of this lease. If construction is not begun by December 31, 2002, this contract is null and void.
2. RENT: Lessee shall pay to Lessor the sum of Ten Dollars and No Cents (\$10.00) at the time of the signing of the lease. It is agreed that the Lessee is not responsible for any further payments of rent during the duration of the lease.
3. USE/MANAGEMENT:
  - A. Lessor grants to Lessee the right to do specific acts on the Property as set out herein and Lessor retains all other rights to the Property that do not infringe on or impede the rights granted to Lessee.
  - B. Lessor grants Lessee the right to construct storm water improvements on the Property as defined on the engineering drawings for project 950822-04. The improvements include planting of native prairie and woodland on the majority of the 13.6 acres, restoration of wetlands by tile breakage and installation of grade controls in Kuhn Ditch, and construction of an alternate high flow channel to bring stream water to

an existing pond. Lessor agrees to Lessee's right to plant vegetation on the Property and to maintain control of the design elevation of the wetlands. This paragraph B represents the Intended Use of the Property by the Lessee. The purpose of the Intended Use and construction as set out herein is more fully describe in the Section 8 of the Design report for the Tippecanoe Environmental Lake & Watershed Foundation's project 950822-04, which is incorporated herein by reference.

- C. Lessor grants to Lessee a ten (10) foot maintenance easement as described in Exhibit "B". Lessor grants to Lessee the right of ingress and egress to and from the Property from the public road as well as reasonable access on, over, and along the said maintenance easement for the purpose of the construction, inspection, maintenance and repair of the structure and vegetation on the Property. The maintenance easement shall remain permanently vegetated. Lessor, for themselves their heirs, assigns, and administrators agree that they will do no construction or building in and on the maintenance easement. Lessee agrees to repair any construction or maintenance damage and to restore site to a condition equivalent to original condition as determined by photographs taken prior to construction within thirty (30) days after the end of the construction period.
- D. Lessor agrees that Lessee and its agents shall be permitted to enter onto the Property with such machinery, materials, and equipment and the personnel and workers to operate said machinery and equipment to carry out the Intended Use of the Property by Lessee, including, but not limited to the construction, inspection of, maintenance and repair of grade controls and the planting or replanting of vegetation. It is agreed that all improvements shall stay with the land.
- E. Lessor agrees that Lessee and its agents shall have the right to take such tests and borings on the Property as Lessee deems necessary to carry out its Intended Use, and to take photographs of the Property.
- F. Lessor limits the rights granted to Lessee as follows: Lessee may enter onto the Property only for activities directly related to the Intended Use of the Property and not for any other use, including the recreational use by Lessee and its agents.
- G. Rights to the Property shall be retained by Lessor and include, but are not limited to, the right of fishing, boating, and hunting, as long as those activities do not interfere with or jeopardize the Intended Use of the Property by Lessee.
- H. Lessor agrees to refrain from altering or interfering with structures and vegetation on the Property and to refrain from permitting any act, which affects the hydrology or vegetation of the Property.
- I. Lessee shall remove any debris from the Property that results from the construction, maintenance or repair of the Property during the term of the lease. Lessee shall offer Lessor the use and placement of the soil removed from the Property during the time of construction and

maintenance. If Lessor refuses such use, Lessee will be responsible for its removal from the Property.

- J. Lessee shall give notice to Lessor of its intention to enter onto the Property for purposes of inspection, maintenance and repair of the structures and vegetation on the Property. Lessee shall not enter Property without permission from Lessor, which permission will not be unreasonably withheld.
  - K. Lessee will provide all maintenance on structures required on the Property as necessary to achieve and sustain the Intended Use of the Property as defined in section 3.B. of this lease.
  - L. Lessee will introduce only plant life into the Property.
  - M. Lessee agrees to take reasonable measures to avoid any activities, which would harm wildlife in and around the Pond area.
- 4. TAXES: Lessor shall pay all real property taxes and assessments due on the Property during the term of the lease.
  - 5. MINERALS: Lessor shall not engage in mineral exploration or mining on the Property and shall not lease or otherwise authorize the use of the Property for these purposes during the term of the lease.
  - 6. CONDEMNATION: Lessor agrees that if the Property, or any part thereof, shall be taken or condemned for public or quasi-public use or purpose by any competent authority, Lessee shall have the right to defend against such attempted condemnation of the Property or any part thereof. If, in the opinion of Lessee, the Property becomes unmanageable or unsuitable for its Intended Use and Purpose as a result of such condemnation, this lease may be terminated by Lessee upon sixty (60) days written notice to Lessor.
  - 7. LIABILITY/INSURANCE:
    - A. Nothing in this lease shall be construed as imposing any additional liability on Lessor. Lessee shall name the Lessor as additional insured on Lessee's liability policy. Prior to the start of construction and throughout the term of the lease thereafter, Lessee shall carry a policy of public liability insurance adequately covering all of its activities on the Property. Lessee shall provide Lessor with a certificate or other evidence that such insurance is in effect, and for what amounts, and Lessee shall send new evidence of such insurance at each renewal date or change in coverage.
    - B. Lessee shall be responsible for and shall indemnify and hold Lessor harmless from any and all costs, including but not limited to the expense of defending any claim of legal action related to any injury or damage to Lessee, Lessor or any other party or caused by or resulting from Lessee's activities on the Property.
    - C. Lessee shall be responsible for the costs associated with repairing all damages to the Property and surrounding property, including but not limited to plant and animal life and structures as a result of a failure of any grade controls used in the construction of the project or any other activities relate to actions taken by Lessee unless such failure is a result of actions of the Lessor.

8. SUB-LEASE/ASSIGNMENT: Lessee may not assign this lease or sublet all or any portion of the Property without the prior written consent of Lessor.
9. DAMAGES:
  - A. Lessee shall restore all road surfaces owned by Lessor to its original condition if said surfaces are damaged by equipment and/or machinery used by Lessee and its agents during ingress and egress from the Property.
  - B. Before final completion of the work on said premises, Lessee and its agents shall adequately clean up the construction site to the complete satisfaction of Lessor.
  - C. This commitment pertains to construction, repair and maintenance done by Lessee and its agents on the Property, throughout the term of the lease.
10. EXPENSE: Lessee shall be responsible for all expenses incurred in the construction, repair, use, inspection, and maintenance of the Intended Use of the Property by Lessee as set out in section 3 of this lease.
11. NO LIEN AGREEMENT: In consideration of the rents and covenants herein contained, Lessee, for itself and for all contractors, subcontractors, laborers, or persons performing labor upon or furnishing materials or machinery for the Intended Use of the Property as set out herein agrees that:
  - A. No lien shall attach to the Property or to Lessor's Property, or to any structure or other improvement to be constructed on the Property; and
  - B. Any recording of this Agreement is intended solely for the purpose of giving proper notice as provided under IC 32-8-3-1 et seq.; and no lien whatsoever is created against the real estate as the result of the execution or recordation of this Agreement.
12. TRESPASS: Lessor grants to Lessee and its Agents permission to enter onto the Property at any time to carry out its Intended Use as set out herein. All others shall be considered trespassers on the Property unless the party has the permission of the Lessor and Lessee to be on the Property.
13. DEFAULT:
  - A. Breach of any covenant contained herein shall constitute a default under this lease. In the event of a default, the defaulting party shall be entitled to thirty (30) days written notice specifying the nature of the default and giving the defaulting party an opportunity to cure the default. If the default is not corrected within thirty (30) days after notice is received, the injured party may elect to terminate this lease.
  - B. If the Intended Use for the Property is not approved by any governmental agency having jurisdiction over the construction and maintenance of the stream work, Lessee and Lessor shall each have the right to terminate the lease by giving written notice to the other party. Within sixty (60) days from the date the notice is received by either party, the lease shall be null and void.
  - C. If construction for the Intended Use as set out in section 3 of this lease is not completed by December 31, 2001 from the date construction is

begun, then Lessor has the right to give written notice to Lessee to terminate the lease and Lessee shall have fifteen (15) days in which to complete the project as set out in section 3 of this lease. If the construction for the Intended Use is not accomplished within said fifteen (15) day period from the date the notice is received by Lessee, this lease shall be null and void. Provided, however, that if Lessee's delay in construction is due to environmental factors out its control (such as weather conditions), Lessee shall have thirty (30) days in which to complete the project as set out in section 3 of this lease agreement.

14. NOTICE: Any notice required by this lease shall be served upon the other party by mail at the address set forth below or at such other addresses as the parties may hereafter designate:

Warner Historical Farm, Inc.  
Richard C. White, President  
10159 East Topaz Drive  
Scottsdale, AZ 85258

Tippecanoe Environmental Lake & Watershed Foundation  
Attention: Lynn Stevens  
P.O. Box 55  
North Webster, IN 46555

15. AGENTS: Where in this instrument rights are given to either the Tippecanoe Environmental Lake & Watershed Foundation or Lessors, such rights shall also extend to the agents or employees of the parties.
16. BINDING EFFECT: This lease shall become effective at the time construction on the Property begins and shall be binding upon Lessor, their heirs, personal representatives, successors and assigns and upon Lessee and Lessee's successor organizations.
17. TITLE: Lessor hereby represents and warrants that they are owners of the Property covered by this lease and that they have the right to enter into this lease and to bind themselves and their heirs, successors, assigns, and personal representatives.
18. This lease shall be interpreted under the laws of the State of Indiana.
19. Headings are for reference only and do not affect the provisions of this lease.
20. Where appropriate, the singular shall include the plural.
21. This lease agreement contains all of the agreements of the parties, any prior negotiations, understandings, and agreements having been merged into it. Amendments of this lease agreement shall not be effective unless made in writing and signed by the parties.
22. In computing a time period prescribed in this lease agreement, the day of the act or event shall not be counted. All subsequent days, including intervening weekend days and holidays, shall be counted into the period.
23. In the event the Tippecanoe Environmental Lake & Watershed Foundation should cease to exist, the lease shall be binding upon the organization that

succeeds the said association, provided that the succeeding organization's membership consists of property owners of real estate on Tippecanoe Lake, Kosciusko County, Indiana, and provided that the Lessor approves such successor, in writing.

24. This lease agreement shall be recorded in the Office of the Recorder of Kosciusko County, Indiana. The Lessee shall pay the recording fee.
25. Any person signing this Agreement in a representative capacity for a party affirms under the penalties for perjury that he/she has the actual authority to sign.

IN WITNESS WHEREOF, Lessor, Warner Historical Farm, Inc. and Lessee, the Tippecanoe Environmental Lake & Watershed Foundation, by its agents, have caused this lease agreement to be executed on the day and year above first written with the following signatures.

***Warner Historical Farm, Inc.***

BY: 

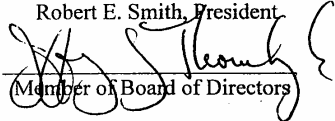
Richard C. White, President

***LESSOR***

***Tippecanoe Environmental Lake  
& Watershed Foundation***

BY: 

Robert E. Smith, President

  
(Member of Board of Directors)

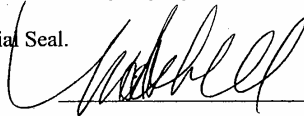
***LESSEE***

State of Arizona

County of Maricopa

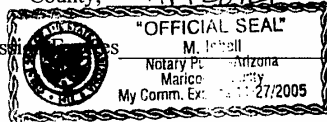
Before me, a Notary Public in and for said County and State, on the 3rd day of December, 2001, personally appeared Richard C. White, and acknowledged the execution of the above and foregoing Agreement to his voluntary act and deed.

WITNESS my hand and Notarial Seal.



Resident of Maricopa  
County, Arizona

My Commission Expires

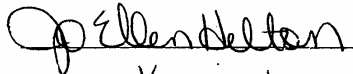


State of Indiana

County of Kosciusko

Before me, a Notary Public in and for said County and State, on the 11th day of December, personally appeared Robert E. Smith and \_\_\_\_\_, and each acknowledged the execution of the above and foregoing Agreement to his/her voluntary act and deed.

WITNESS my hand and Notarial Seal.



Resident of Kosciusko  
County, Indiana

My Commission Expires 12-10-2008

Exhibit "A"

Mid Lake Farms situated in Kosciusko County, State of Indiana, more particularly described as follows:

TRACT ONE: The South Half of the Southwest Quarter of Section 10 in Township 33 North, Range 7 East, excepting there from the following Two Tracts, to-wit:

- (a) A tract of land in the Southwest Quarter of the Southwest Quarter of Section 10, Township 33 North, Range 7 East, more particularly described as follows: Commencing on the South line of said Section 10, 2,031.1 feet West of the South Quarter Post of said section, said point being in the center of a 40 foot county road, running thence West along the center of said County road 389 feet; thence North 0 degrees 7 minutes West 186.6 feet along a fence line; thence North 14 degrees 5 minutes East 101 feet along a fence line; thence South 86 degrees 55 minutes East 370.6 feet along a fence line; thence South 1 degree 8 minutes West 264.7 feet along a fence line to the place of beginning containing 2.39 acres, more or less.
- (b) A tract of land in the Southeast corner of the Southwest Quarter of Section 10, Township 33 North, Range 7 East, more particularly described as follows: Commencing at the Southeast corner of said Southwest Quarter, said point being at the intersection of the center lines of 2 county highways; running thence North on the East line of said South west Quarter 259.5 feet; thence North 89 degrees 19 minutes West along a board fence 145.6 feet; thence South 0 degrees 58 minutes West 261 feet to the center line of the County road located on the South line of said Southwest Quarter; thence East on said South line 149.6 feet to the place of beginning, containing 0.7 acre, more or less.

Said tract one contains 76.91 acres after said exceptions.

TRACT TWO: The Southeast Quarter of the Southeast Quarter of Section 9, Township 33 North, Range 7 East, excepting there from the following Two Tracts, to-wit:

- (a) Commencing at a point 489 feet North of the Southwest corner of the Southeast Quarter of the Southeast Quarter of Section 9, Township 33 North, Range 7 East, and running thence East 221.5 feet to a post; thence North 300 feet to a post, thence West 224 feet to the Quarter Section line; thence South 300 feet along the Quarter Section line to the place of beginning.
- (b) Beginning at a point on the South line of said Section 9, 471.6 feet West of the Southeast corner of said Section 9, thence West along said South line of Section 9, 274.9 feet to a point; thence North 421 feet to an iron pipe; thence

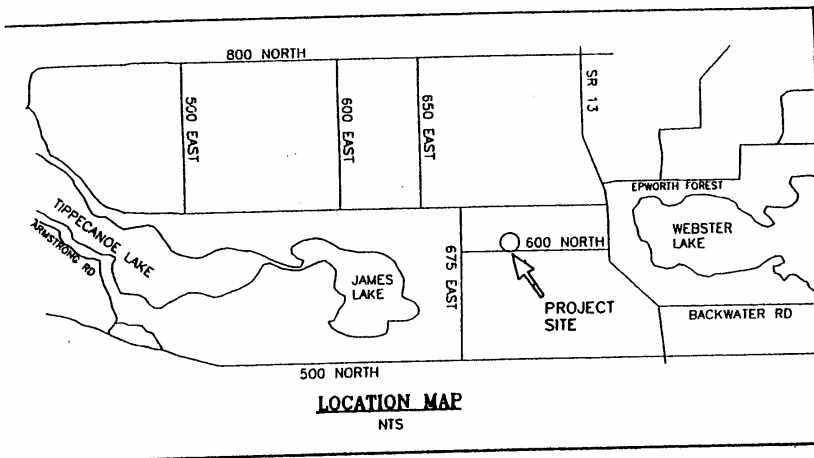
East 274.9 feet to a point; thence South 421 feet to the point of beginning and containing 2.66 acres, more or less.

Said tract two contains 35.75 acres after said exceptions.

TRACT THREE: The Northeast Quarter of the Southwest Quarter of Section 10, Township 33 North, Range 7 East, excepting there from the following Two Tracts to-wit:

- (a) The Plat of Warner Subdivision, Tippecanoe Township, Kosciusko County, Indiana, recorded in Plat Book 5, Page 92.
- (b) A tract of land in the Northeast Quarter of the Southwest Quarter of Section 10, Township 33 North Range 7 East, Kosciusko County, Indiana, better described as follows: Beginning at a point on the East-West open line of said Section 10, 720 feet West of the center of said Section and thence South 2 degrees 23 minutes East along the West line of Hickory Street in the Plat of Warners Subdivision 844.4 feet to an iron pipe in a fence; thence South 75 degrees 41 minutes West along said fence 153.5 feet to an iron pipe; thence North 2 degrees 23 minutes West, 882.2 feet to a point on the said East-West open line of Section 10, 150.1 feet to the place of beginning, containing 2.97 acres, more or less.

Said tract three contains 24.65 acres after said exemptions.



### REFERENCE BENCHMARK

IDNR TBM KKK 70 1974 WEBSTER LAKE  
IN KOSCIUSKO COUNTY, IN THE SE 1/4, SEC 10, T. 33 N. R. 7 E.,  
2ND PM, AT NORTH WEBSTER; 0.1 MILE SOUTH ALONG STATE ROAD 13  
FROM THE NORTH WEBSTER SCHOOL BUILDING IN NORTH WEBSTER TO AN  
EAST-WEST CROSSROAD; SET IN THE TOP OF THE SOUTHWEST CORNER  
BOLT OF A GROUP OF 4 BOLTS ON AN ABANDONED SIGN FOUNDATION,  
400 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF THE SCHOOL  
BUILDING, 88.5 FEET SOUTH OF THE CENTERLINE OF THE CROSSROAD,  
24.5 FEET EAST OF THE CENTERLINE OF STATE ROAD 13; A FILED "V".  
ELEV.= 879.018' (NGVD 1929)

### SITE BENCHMARK

A 6-INCH NAIL SET IN THE NORTH FACE OF POWER POLE #635/698  
ON THE SOUTH SIDE OF CR 600 NORTH  
ELEV.= 855.47' (NGVD 1929)

## **APPENDIX E:**

### **Permits**

STATE OF INDIANA  
DEPARTMENT OF NATURAL RESOURCES

MAILED SEP 27 2001

**CERTIFICATE OF APPROVAL  
CONSTRUCTION IN A FLOODWAY**

**APPLICATION #** : FW-21221

**STREAM** : Kuhn Ditch

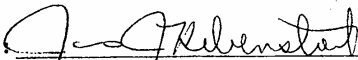
**APPLICANT** : Tippecanoe Environmental Lake and Watershed Foundation  
Lynn Stevens  
PO Box 55  
North Webster, IN 46555-0055

**AGENT** : J F New & Associates, Inc  
John Richardson  
708 Roosevelt Road, Suite A  
Walkerton, IN 46574

**AUTHORITY** : IC 14-28-1 with 310 IAC 6-1

**DESCRIPTION** : An existing wetland will be restored. Two (2) rock check dams consisting of 3" to 6" rock approximately 1.5' high will be placed in the ditch to serve as grade control structures to divert water into an existing depression located next to the ditch. This water will be transported to the depression by excavating a channel. In addition, approximately 44 cubic yards of material will be excavated to create an overflow channel from the existing depression back into the ditch. Both of the channels will be approximately 12' wide and 2' deep and will be protected by placing approximately 3" to 6" of gravel in the flowlines and seeding the banks with erosion control blankets. Also, approximately 130 lineal feet of the ditch will be relocated and stabilized by placing approximately 65 cubic yards of riprap over geotextile fabric along the banks to prevent erosion from occurring. Details of the project are contained in information and plans received at the Division of Water on April 6, 2001.

**LOCATION** : DOWNSTREAM: Immediately upstream of the north side of the County Road 600  
North stream crossing near North Webster, Tippecanoe Township, Kosciusko County  
SW¼, SW¼, SW¼, Section 10, T 33N, R 7E, North Webster Quadrangle  
UTM Coordinates: Downstream 4575210 North, 607910 East  
UPSTREAM: Approximately 1400' upstream (north) from the County Road 600  
North stream crossing  
NE¼, SW¼, SW¼  
UTM Coordinates: Upstream 4575580 North, 608200 East

**APPROVED BY** :   
James J. Hebenstreit, P.E., Assistant Director  
Division of Water

**APPROVED ON** : September 26, 2001

Attachments: Notice Of Right To Administrative Review  
General Conditions  
Special Conditions  
Service List

**STATE OF INDIANA  
DEPARTMENT OF NATURAL RESOURCES**

**NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW**

**APPLICATION #: FW- 21221**

This signed document constitutes the issuance of a permit by the Natural Resources Commission, or its designee, subject to the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

The permit or any of the conditions or limitations which it contains may be appealed by applying for administrative review. Such review is governed by the Administrative Orders and Procedures Act, IC 4-21.5, and the Department's rules pertaining to adjudicative proceedings, 312 IAC 3-1.

In order to obtain a review, a written petition must be filed with the Division of Hearings within 18 days of the mailing date of this notice. The petition should be addressed to:

Mr. Stephen L. Lucas, Director  
Division of Hearings  
Room W272  
402 West Washington Street  
Indianapolis, Indiana 46204

The petition must contain specific reasons for the appeal and indicate the portion or portions of the permit to which the appeal pertains.

If an appeal is filed, the final agency determination will be made by the Natural Resources Commission following a legal proceeding conducted before an Administrative Law Judge. The Department of Natural Resources will be represented by legal counsel.

STATE OF INDIANA  
DEPARTMENT OF NATURAL RESOURCES

**SPECIAL CONDITIONS**

**APPLICATION #: FW- 21221**

**PERMIT VALIDITY** : This permit is valid for 24 months from the "Approved On" date shown on the first page. If work has not been initiated by September 26, 2003 the permit will become void and a new permit will be required in order to continue work on the project.

This permit becomes effective 18 days after the "MAILED" date shown on the first page. If both a petition for review and a petition for a stay of effectiveness are filed before this permit becomes effective, any part of the permit that is within the scope of the petition for stay is stayed for an additional 15 days.

**CONFORMANCE** : Other than those measures necessary to satisfy the "General Conditions" and "Special Conditions", the project must conform to the information received by the Department of Natural Resources on: April 6, 2001. Any deviation from the information must receive the prior written approval of the Department.

Number	Special Condition
( 1 )	revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion
( 2 )	minimize and contain within the project limits all tree and brush clearing and provide the opportunity to utilize cleared trees of firewood and timber size
( 3 )	appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized
( 4 )	seed and apply mulch on all disturbed areas not protected by other methods
( 5 )	except for the material used as backfill as shown on the above referenced project plans on file at the Division of Water, place all excavated material landward of the floodway
( 6 )	all work must conform with the existing bank at the upstream and downstream limits of the project site
( 7 )	do not leave felled trees, brush, or other debris in the floodway
( 8 )	all riprap placed for bank stabilization must conform to the bank

STATE OF INDIANA  
DEPARTMENT OF NATURAL RESOURCES

**GENERAL CONDITIONS**

**APPLICATION #: FW- 21221**

- (1) If any archaeological artifacts or human remains are uncovered during construction, federal law and regulations (16 USC 470, et seq.; 36 CFR 800.11, et al) and State Law (IC 14-21-1) require that work must stop and that the discovery must be reported to the Division of Historic Preservation and Archaeology within 2 business days.

Division of Historic Preservation and Archaeology  
Room W274  
402 West Washington Street  
Indianapolis, IN 46204

Telephone: (317) 232-1646, FAX: (317) 232-8036

- (2) This permit must be posted and maintained at the project site until the project is completed.
- (3) This permit does not relieve the permittee of the responsibility for obtaining additional permits, approvals, easements, etc. as required by other federal, state, or local regulatory agencies. These agencies include, but are not limited to:

Agency	Telephone Number
Kosciusko County Drainage Board	(219) 372-2367
US Army Corps of Engineers, Louisville District	(502) 315-6733
Indiana Department of Environmental Management	(317) 233-2471
Local city or county planning or zoning commission	

- (4) This permit must not be construed as a waiver of any local ordinance or other state or federal law.
- (5) This permit does not relieve the permittee of any liability for the effects which the project may have upon the safety of the life or property of others.
- (6) This permit may be revoked by the Department of Natural Resources for violation of any condition, limitation or applicable statute or rule.
- (7) This permit shall not be assignable or transferable without the prior written approval of the Department of Natural Resources. To initiate a transfer contact:

Mr. Michael W. Neyer, PE, Director  
Division of Water  
Room W264  
402 West Washington Street  
Indianapolis, IN 46204

Telephone: (317) 232-4160, Toll Free: (877) 928-3755  
FAX: (317) 233-4579

- (8) The Department of Natural Resources shall have the right to enter upon the site of the permitted activity for the purpose of inspecting the authorized work.
- (9) The receipt and acceptance of this permit by the applicant or authorized agent shall be considered as acceptance of the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

STATE OF INDIANA  
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 21221

Tippecanoe Environmental Lake and Watershed  
Foundation  
Lynn Stevens  
PO Box 55  
North Webster, IN 46555-0055

J F New & Associates, Inc  
John Richardson  
708 Roosevelt Road, Suite A  
Walkerton, IN 46574

K L Williams Development Co, LLC  
Kevin L Williams  
1800 North Wabash Avenue  
Marion, IN 46952

Kosciusko County Drainage Board  
County Surveyor  
Courthouse, Room 103  
100 West Center Street  
Warsaw, IN 46580-2872

US Army Corps of Engineers, Louisville District  
Regulatory Functions Branch  
c/o Jim Townsend  
PO Box 59  
Louisville, KY 40201-0059

Warner Historical Farms  
Richard White  
10159 East Topaz Drive  
Scottsdale, AZ 85258

Indiana Department of Natural Resources  
Division of Law Enforcement  
North Region Headquarters Dist 1  
RR 6, Box 344  
Peru, IN 46970

Kosciusko County Area Plan Commission  
Court House, 1st Floor, Room 26  
100 West Center Street  
Warsaw, IN 46580

Kosciusko County Soil and Water Conservation  
District  
217 Bell Drive  
Warsaw, IN 46580-9362

Staff Assignment:

Administrative	: Joseph D. Mapes
Technical	: John N. Simpson, P.E.
Environmental	: Stephen H. Jose

**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE  
CORPS OF ENGINEERS  
P.O. BOX 59  
LOUISVILLE, KENTUCKY 40201-0059  
May 2, 2001

Operations Division  
Regulatory Branch (North)  
ID No. 200100506-bac

Ms. Lynn Stevens  
Tippecanoe Environmental Lake  
and Watershed Foundation  
P.O. Box 55  
North Webster, Indiana 46555

Dear Ms. Stevens:

This is in response to your request dated April 2, 2001, for a Department of the Army Permit to construct two grade control structures in Kuhn Ditch to raise the grade of the stream to historic levels. The grade controls will be constructed with 3" to 6" diameter field stone that will be placed in the stream to create a riffle. The construction will involve discharge to an area totaling 0.007 acre below the ordinary high water elevation of the ditch. The site is located in the southwest quarter, Section 10, Township 33 North, Range 7 East, Kosciusko County, Indiana.

Under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA), the Louisville and Detroit Districts issued Regional General Permit (RGP) No. 1 on February 11, 2000, for certain activities having minimal impact in Indiana. We have verified that your proposed work shown on the plans submitted with the application and described below is authorized under the RGP. Therefore, you may proceed with the work subject to the enclosed general conditions and the Indiana Department of Environmental Management (IDEM) Section 401 Water Quality Certification dated (WQC) October 22, 1999. According to your application, notification has been sent to IDEM in compliance to a condition of the WQC.

The following work is authorized: construction of two grade control structures in Kuhn Ditch. The grade controls will be constructed with 3" to 6" diameter field stone that will be placed in the stream to create a riffle. The construction will involve discharge to an area totaling 0.007 acre below the ordinary high water elevation of the ditch.

Any new construction activity other than that shown on the plans submitted with the application may not qualify for the RGP. If your plans change or if additional activities are proposed, please submit revised plans to this office for review prior to construction.

Also enclosed is a "Notice of Authorization" to be displayed at the construction site in a conspicuous place. Upon completion of the work authorized by this RGP, the enclosed Completion Report form must be completed and returned to this office. This authorization is valid until **February 11, 2005**.

Copies of this letter will be sent to your agent and the appropriate coordinating agencies (see enclosure for addresses).

If you have any questions concerning this matter, please contact this office at the above address, ATTN: CELRL-OP-FN or call Mr. Brett A. Crump at (317) 532-4197. Any correspondence on this matter should refer to our ID Number 200100506-bac.

Sincerely,

**ORIGINAL SIGNED**

Doug Shelton  
Chief, North Section  
Regulatory Branch

Enclosures

ADDRESSES FOR AGENT AND COORDINATING AGENCIES

Mr. John Richardson  
J. F. New & Associates, Inc.  
708 Roosevelt Road  
Walkerton, Indiana 46574

Dr. Dennis Clark  
Section Chief  
Section 401 Water Quality Certification Program  
Indiana Department of Environmental Management  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Mr. Mike Neyer, P. E.  
Director  
Division of Water  
Indiana Department of Natural Resources  
402 West Washington Street, Room W264  
Indianapolis, Indiana 46204

DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE  
CORPS OF ENGINEERS  
P.O. BOX 59  
LOUISVILLE, KENTUCKY 40201-0059

per memo  
9/10/00 001

May 18, 2001

Operations Division  
Regulatory Branch (North)  
ID No. 200100506-bac

Ms. Lynn Stevens  
Tippecanoe Environmental Lake  
and Watershed Foundation  
P.O. Box 55  
North Webster, Indiana 46555

Dear Ms. Stevens:

This is in regard to the correspondence received May 5, 2001, concerning a modification to the Warner Historical Farm Project. The original proposal involved constructing two grade control structures in Kuhn Ditch to raise the grade of the stream to historic levels. The proposed modification involves placing 65 cubic yards of riprap along 130 lineal feet of Kuhn Ditch adjacent to County Road 600 North to protect from erosion. The site is located in the southwest quarter, Section 10, Township 33 North, Range 7 East, Kosciusko County, Indiana.

Based on a review of the proposed modification, we have determined that the project still qualifies for authorization under the provisions of the Regional General Permit (RGP) No. 1 issued on February 11, 2000. Therefore, the modification is approved. The applicant must comply with the general conditions of the RGP, the IDEM Section 401 Water Quality Certification dated October 22, 1999, and any noted special conditions.

Any additional construction activity other than that shown on the plans submitted with the application and modification request may not qualify for the RGP. If your plans change or if additional activities are proposed, please submit revised plans to this office for review prior to construction.

Copies of this letter will be sent to your agent and the appropriate coordinating agencies (see enclosure for addresses).

If you have any questions concerning this matter, please contact this office at the above address, ATTN: CELRL-OP-FN or call Mr. Brett A. Crump at (317) 532-4197. Any correspondence on this matter should refer to our ID Number 200100506-bac.

Sincerely,

PERSONAL SIGNED

Doug Shelton  
Chief, North Section  
Regulatory Branch

Enclosure

ADDRESSES FOR AGENT AND COORDINATING AGENCIES

Mr. John Richardson  
J. F. New & Associates, Inc.  
708 Roosevelt Road  
Walkerton, Indiana 46574

Dr. Dennis Clark  
Section Chief  
Section 401 Water Quality Certification Program  
Indiana Department of Environmental Management  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Mr. Mike Neyer, P. E.  
Director  
Division of Water  
Indiana Department of Natural Resources  
402 West Washington Street, Room W264  
Indianapolis, Indiana 46204